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A BILL OF WRONGS.

A MODERN humourist has told us how the usurping Terriers governed the whiskered natives of Rat-land :—

“ They ate them up, when bones ran short ;
 They chased them to their holes for sport,
 They seiz’d their garner’d riches
 (The toothsome cheese—the ripen’d grain) ;
 Monopolized the sunny plain,
 Leaving the Rats the loathsome drain—
 The gutter, swamps, and ditches.”

Terrier-Legislation has its admirers in the Medical Parliament—the General Council of Medical Education and Registration—and if Chemists and Druggists do not “ show their teeth ” in a very determined manner, they will eventually be reduced to the helpless condition of the Rats in the fable. The professional Terriers are already looking forward hopefully to the good time coming when they will be in a position to devour, worry, and plunder the unfortunate Rats of the Counter with impunity.

Seriously speaking, a Committee of the Medical Council have suggested certain amendments of the present Medical Acts which imperil the rights of the general body of Chemists and Druggists. If the new Bill embodying these amendments becomes law, the majority of our readers will have to shut up their shops, unless they choose to conform to certain vexatious and humiliating regulations laid down by the Medical body. The aim of this oppressive measure is plainly indicated by the proposed amendment of the Fifty-fifth Section of the Act of 1858. This Section, as it stands at present, states that—“ Nothing in this Act contained shall extend or be construed to extend to prejudice, or in any way to affect, the lawful occupation, trade, or business of Chemists and Druggists, and Dentists, or the rights, privileges, or employment of duly-licensed Apothecaries in Ireland, so far as the same extend to selling, compounding, or dispensing medicines.”

The amendment suggested is as follows :—

“ Sec. LV.—Omit the words ‘ Chemists, and Druggists, and.’ ”

From this it will be seen that the intent of the Bill is to deprive Chemists and Druggists of their lawful rights.

For further information respecting this proposed Bill of Wrongs, we refer our readers to the able letter of the Secretary of the United Society, which we print on another page. Mr. Buott fully exposes the designs of the Doctors, and indicates the course which the United Society will pursue unless these designs be speedily renounced by the Council.

To the Pharmaceutical Society the trade need not look for assistance. That body is acknowledged by the Medical Council as one duly authorized to grant certificates of competency to compound medicine. In the last number of the *Pharmaceutical Journal* the propositions of the Medical Council are cleverly softened down, and made to appear most desirable. We lay an extract before our readers.

"In their present form they [the propositions] comprise—

"1. A general system of pharmaceutical education and examination, to be regulated by the Medical Council.

"2. The registration of all persons qualified to practise pharmacy, as tested by such examinations.

"3. The restriction of the right to dispense or compound the prescriptions of physicians or surgeons to qualified practitioners in pharmacy, and the imposition of a penalty upon those who shall keep open shop for compounding medicines without having passed the required examination.

"4. The appointment by the Medical Council of inspectors, whose duty it shall be to see that the provisions of the Act, affecting pharmacy, are duly carried into effect.

"5. The prohibition of the sale of all secret remedies, and the imposition of a penalty for selling any patent or quack medicine, unless a sworn certificate of the composition of such medicine be exposed for inspection in the shop or place where it is sold.

"These propositions are surely of sufficient importance to demand and to ensure the immediate and serious attention of the whole *pharmaceutical body*. We hail the principle of the proposed measure as correct, and there will be ample time for the consideration of the details; but we may observe that the Medical Council are pursuing the same course with us as that originally taken with regard to the physicians, surgeons, and apothecaries."

We are sorry that the Council of the Pharmaceutical Society, which has lately been strengthened by some new blood, did not at once proclaim an opposition to the proposed Bill. Such a course would have given non-pharmaceutists confidence in the Society, and might have promoted a union between the two sections of the trade. The members of the Pharmaceutical Society will gain nothing by joining the Doctors. In the apologue which we quoted in the beginning of our article, the Terriers explain how they conciliate the fiercest Rats:—

"We beckon out the biggest rat,
And ask him, with a friendly pat,
To join our side—the merrier;
We teach him how to bark; with shears
We dock his tail and trim his ears,
Give him some bones to calm his fears,
And tell him he's a Terrier."

In the same way, the Doctors, to serve their own ends, flatter and coax the pharmacist into the belief that he is one of themselves.

In conclusion, we may state that at present nobody is responsible for the proposed Bill. How the Medical Council have shirked all responsibility, will be seen from the following passage in the Report of the Committee on Amendments:—

"The Committee do not propose that the General Council should at present express an opinion on the proposed amendments, nor are the Committee unanimous in some of the amendments suggested.

"The Committee suggest that the present course might properly be, that the General Council, without expressing any opinion on the proposed amendments, should

give instructions to the Executive Committee to have a Bill drawn up, embodying the proposed amendments; that the Bill thus drawn up should be transmitted to the several licensing bodies mentioned in Schedule (A) for their consideration, and that the amended Bill, with any alteration suggested by the several licensing bodies, should be submitted for consideration at the next annual meeting of the General Council."

METRIC WEIGHTS AND MEASURES.

BY BARNARD S. PROCTOR.

THE attempt now being made, to introduce the French system of weights and measures into English use, may be looked upon as the first of a series which will certainly be continued with little intermission until a successful issue has been arrived at. It may be a long struggle, but both History and Philosophy tell us that it must eventually be a successful one. To us there is no time like the present; and the only reason why a delay should be desired, is that we may see whether or not the "Standard Metric Weights and Measures" to be eventually adopted for British commerce, will in all particulars coincide with those now proposed, borrowed as they are, without alteration, from the French. That the metric system is incomparably better than any other now in use, is a question which no one will dispute; but that it is capable of still further improvement, and consequently will be subject to future change, is a question that most of us must entertain. It is, therefore, necessary that we give some thought to the system as it stands, not overlooking either its advantages or its faults, especially those affecting its use in pharmacy. It would put us to a double inconvenience, if the national Pharmacopœia were to be published authorizing a new arrangement of weights for use in pharmacy, or even confirming the use of the old system, if the same were to be abolished by Act of Parliament within a year or two of its publication. The trade is, therefore, in various districts, petitioning that the present bill may be passed, at least as far as regards the practice of pharmacy. It is, therefore, necessary that we should criticise the bill, especially those clauses which affect our own calling.

First, regarding the system, we may say there is no great advantage in a metre over a yard, viewing the matter in the abstract; but there is a great advantage in adopting that measure which has found favour with the most of our Continental neighbours, inasmuch as our intercourse with them, both intellectual and commercial, will be facilitated. But the great advantage of the metric system is in the derivation of all weights and measures from the same root, and the division and multiplication of the same being all by tens. If we have a tank one yard square, we cannot say, without a calculation, how much water it will contain; but if it is one metre square, we know at once that it will contain 100 litres for every decimetre it is in depth, and we know that these 100 litres will weigh 100 kilograms; and also, without a calculation, we know that the same filled with oil of vitriol will weigh 184 kilograms,—or if nitric acid, 142 kilograms,—or of liquor of ammonia, ninety-six kilograms. So of all calculations relative to weights and measures, especially when dimensions and capacity, or capacity and weights, are both to be taken account of, the process will be immensely simplified: and so evident is this, that I feel it would be a waste of time to enlarge upon it.

On the other hand, the cubic metre contains 1,000 litres, and the litre of distilled water 1,000 grams. If the centimetre had been adopted as a unit for small measures, giving it a name which was not expressive of its being a fraction, then its cube would have formed a convenient unit for measures of capacity, and the cube of water would have been equally convenient as a unit of weights. Supposing the present names of the units had been adopted for these, we should have had the metre, the litre, and the gram, having a distinct and natural relationship to one another; and we should have had the decilitre corresponding with the decigram, the centilitre with the centigram, and so on throughout the whole; an arrangement more convenient, surely, than the millitre, answer-

ing to the gram, and the litre to the kilogram. Had the weights and measures been thus arranged for small quantities, the multiples might conveniently have run up to the kilogram and kilolitre (answering to what is now the litre), and then a second unit adopted for large weights and quantities: say, for example, the cube of the metre might be called a tun as a large measure for liquids, and the tun of water a ton as a unit for great weights, and these (ton and tun) when divided into tenths and hundredths would just fill the interval between the ton and the kilogram. The metrical system, as now in use, has a fluid measure (the myrialitre) equal to about ten tons, but no weight above (the myriogram) quarter of a hundredweight. Wholesale dealers in heavy merchandise would feel a repugnance to sell their goods by the quarter-hundredweight, when they have become accustomed to dealing only in tons: such feelings, however little foundation there may be for them, will always be a great obstacle to the change. If the system were arranged as I have indicated above, there would be ample provision for dealings of all magnitudes, from the greatest to the least. The weights would stand thus, each one being the tenth of that which precedes it:—ton, deciton,* centiton,* kilogram, hectogram, decagram, gram, decigram, centigram, milligram. And the fluid measures would be the same, substituting tun for ton, and litre for gram.

It is also much to be desired that a good set of symbols should be adopted to express these weights and measures. If every individual is left to choose his own hieroglyphics, there certainly will be confusion; and if the practice of writing the name in full is inculcated, as some are advocating, we shall practically leave it to every one to do as he likes: and every one accustomed to dispensing knows how unlikely it is that medical men will take the time to write decigram in full, when in the whole prescription there is perhaps not a single word above one syllable that they are accustomed to write without contraction. It would be easy to contrive a set of symbols, of very simple forms, which would suitably indicate the required weights or measures; but it would not be an easy task to contrive such symbols as would, when badly written and blotched, be free from ambiguity. In the art of phonography, the whole of the consonant sounds in the English language are expressed by a straight and a curved line, varying only their position and thickness. This is the greatest simplicity practicable in a series of symbols; but who could trust to finding a straight line where it should be in a prescription, or who could trust to the should-be perpendicular line not leaning to the right or to the left? We often find that the number of heads to the 3 and 3 is not free from doubt; and if the number was to be increased, the difficulty would certainly increase in greater ratio. Perhaps, upon the whole, the initial letters of the numerals and quantities together would be most advantageous: thus, Mg. and Cg. for milligram and centigram, and Gm. for gram. But the decigram and decagram, as well as the myriogram, would require the not very elegant symbols of Dig., Dag., and Myg.

Turning from the system to the bill before Parliament, and supposing that so much of it passes as relates to pharmacy, it will probably only have the nature of a permissive bill; for there is at present no clause in it prescribing a fine for the use of the old system of weights in any case where price is not involved. It enacts that the old weights "shall be abolished," that the new weights shall be used "for the purposes of pharmacy;" but the fines are only made to apply to buying, selling, and quoting prices. If the bill should pass in this limited form only, it will amount to no more than a recommendation to the profession to adopt the metrical system in their writings, whether it be writing a prescription or a Pharmacopœia: but this the Medical Council are competent to do without an Act of Parliament, and it is to be hoped they will do it, in the New Pharmacopœia, whether the House of Commons interfere in the matter or not.

To conclude where I began, the only advantage of delay would be to make sure that the system adopted was not likely to be soon subjected to a further change; and the probability of altering the metrical system for the better is so remote as not to be worth waiting for.

11, Grey-street, Newcastle-on-Tyne.

* Mongrel names, but convenient for our present purpose.

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THE FORTHCOMING PHARMACOPŒIA.

ACCORDING to the Report of the Special Pharmacopœia Committee, which has been printed in the Minutes of the Medical Council, the editors will finish their task about the end of September; consequently we may expect to see the long-looked-for work in October. The Report was under consideration at the last meeting of the Medical Council, when the following resolutions, with others which we need not print, were agreed to:—

"That the proposed price of the Pharmacopœia—viz., 7s. 6d. for the large and 5s. for the small edition—be submitted, according to the provisions of the Act of Parliament, to the Commissioners of the Treasury."*

"That Dr. Christison be requested to prepare and publish an explanatory statement of the forthcoming Pharmacopœia, showing its composition, the principles of its construction, the changes introduced, and the necessity under which the members of the several branches of the medical profession will lie of making themselves acquainted with the British Pharmacopœia, in place of the Pharmacopœias which it is to supersede."

"That it be an instruction to the Executive Committee to watch the progress of the Bill on Weights and Measures, now before Parliament, and, in the event of its passing the second reading, to take such steps, by petition in the name of the Council, or otherwise, as may seem to them best calculated to prevent the enactment of any statutory restriction or obligation affecting the use of weights and measures in pharmacy, unless with such provisions as shall obviate the risk of its inconvenient or premature enforcement."

We may here remind our readers that the Medical Council came to a decision as to the system of weights to be adopted last October, when it was resolved—

"That the weights used in the British Pharmacopœia be the Imperial, or Avoirdupois, pound, ounce, and grain; and that the terms 'drachm' and 'scruple,' as designating specific weights, be abolished."

THE CHEMICAL MANUFACTURES OF GREAT BRITAIN.

BY CHARLES W. QUIN, F.C.S.

IN laying before our readers the results of our visits to the principal chemical manufactures of Great Britain, it has been our aim as much as possible to give accounts only of those which might be considered as concerned in making products of a representative character; at the same time we have endeavoured to choose those factories for illustration where other compounds of a less important nature were also produced. To this end we accepted the courteous permission of Messrs. Davy, Macmurdo, and Co. to visit their two establishments in Bermondsey and Upper Thames-street, for the reason that we should not only have the opportunity of describing their method of manufacturing the mercurial preparations for which this old-established firm has so long been celebrated, but also of enlightening our readers on the subjects of photographic chemicals, galenical preparations, the finer chemicals used in the dispensary and laboratory, and many other matters of minor importance.

A VISIT TO MESSRS. DAVY AND MACMURDO'S CHEMICAL WORKS AT BERMONDSEY AND UPPER THAMES-STREET.

The old-established firm of Davy, Macmurdo, and Co. was first founded in Horney-lane, Bermondsey, about eighty years since. At the beginning of their existence, they were amongst the chief makers of the grosser chemicals in the neighbourhood of London; but as the great factories of the North of England became their successful competitors, owing to their having their raw materials close at hand, the firm gradually confined

* The two editions are to be published contemporaneously. That sold at the low price of 5s. a copy will be duodecimo; and that at 7s. 6d., octavo.

their operations to the manufacture of those products in which unremitting care and philosophical exactitude were principally required. At Bermondsey, consequently, large chemicals, such as oxalic acid, tartaric acid, alum, potash, and soda, have gradually given way before mercurials, chemicals used in photography, the pure mineral acids, pure ammonia, and a number of other products used in pharmacy and the arts, whose value depends chiefly on their perfect freedom from accidental contaminations. The factory at Upper Thames-street is used principally for those still finer chemicals which require the constant supervision of managers of high scientific attainments, as well as for galenical preparations, and other products which do not necessitate a large amount of space for their manufacture, and do not bring on the heads of the proprietors periodical indictments from neighbours who fail to appreciate the wholesomeness of the fumes of nitrous or sulphurous acid.

THE BERMONDSEY PREMISES.

These are situated in Horney-lane, Bermondsey, and cover a large extent of ground. We were conducted over them by Mr. Yates, one of the partners in the firm; and we take this opportunity of thanking that gentleman for the courteous manner in which he acted as our *cicerone* during our several visits to both establishments. The most important products made at Bermondsey are undoubtedly the various

MERCURIAL PREPARATIONS.

Certain preparations of mercury were used in medicine as far back as the thirteenth century. The writings of Theodorick, a monk of that era, contain cautions against taking cold while under their influence. Joseph Almenar, a Spanish physician, recommends them in a work bearing date 1516; and Phrissius gives different formulæ for the preparation of mercurial ointments to be used in venereal disorders. The great Paracelsus, however, was the first writer of any eminence who showed that mercury might be administered internally with safety and advantage. Since his time its use in medicine, under one form or another, has gradually increased, although many men of great renown have at various times declaimed against it in the strongest possible manner. The great increase in the consumption of mercurial agents has rendered their manufacture one of the most important in the whole range of chemical products. The immense efficacy attending the exhibition of mercury in numberless diseases is too well known to our readers to need recapitulation: they also hardly require to be told that the principal mercurial compounds used in pharmacy are red and white precipitate, calomel, and corrosive sublimate. The manufacture of red precipitate—or nitric oxide, as it is often improperly called—is comparatively simple. Metallic mercury is dissolved in dilute nitric acid with the aid of heat, and the resulting solution evaporated to dryness. The nitrate of mercury thus obtained is placed in iron pans to the depth of an inch or an inch and a half, and exposed to heat until the whole of the nitric acid is dissipated. Although apparently a simple process, a good deal of care is necessary in the application of the heat in order to obtain a crystalline compound, that form being much valued in the market. White precipitate is made by throwing down a mixture of chloride of mercury and mercuramide, by adding liquor ammoniæ to a solution of corrosive sublimate. The manufacture of calomel is attended with somewhat greater difficulty. The first step in the process is the formation of persulphate of mercury, by dissolving the metal in oil of vitriol. A mixture of the persulphate, metallic mercury and chloride of sodium, is then made and sublimed in an earthenware retort. The resulting calomel generally contains a small portion of metallic mercury, which is got rid of by a second sublimation into a large chamber, on the walls and floor of which the pure calomel sublimes in the form of a brilliant white powder. It is afterwards washed with warm water, in order to remove any trace of corrosive sublimate that may be accidentally formed. The sublimed calomel taken from the chambers of Messrs. Davy and Macmurdo's factory is so free from the higher chloride, that the water used in washing it is hardly darkened on the addition of a solution of hydrosulphuric acid. In making the chloride,—or bichloride, as it is

frequently improperly called,—the precipitate is mixed with common salt only. The mixture is placed in an earthenware retort, with a hemispherical head of the same material. Heat is carefully applied below the iron jacket with which the retort is surrounded, and a mutual interchange of bases takes place,—the sulphuric acid and oxygen going to the sodium to form sulphate of soda, and the chlorine seizing the mercury and subliming as chloride of mercury in the upper part of the retort, in the well-known hemispherical form. The other preparations of mercury used in chemistry and pharmacy are made principally at the establishment in Upper Thames-street.

CYANIDE OF POTASSIUM.

This important salt, so largely consumed in electrotypy and photography, is made in large quantities by Messrs. Davy and Macmurdo. An intimate mixture is made of eight parts of the yellow ferrocyanide of potassium and three of dry carbonate of potash, to which a small portion of powdered charcoal is added, to prevent the formation of cyanate of potash. The mixed mass is heated in a covered iron pot until it has ceased to give off bubbles of carbonic acid. The iron separates and falls to the bottom of the fused salt: the charcoal, however, remains diffused. Subsequent solution, filtration, evaporation to dryness, and fusion yields a milk-white product almost chemically pure. For photographic purposes, Messrs. Davy are about to adopt a suggestion made to them by an old photographer. Cyanide of potassium, as supplied in the lump, is exceedingly annoying to weigh. In breaking it up, pieces generally fly about, leaving their mark wherever they alight: the notion, therefore, of casting the salt in sticks of a certain weight, is an excellent one, and will be readily appreciated by both amateurs and professionals.

THE PURE MINERAL ACIDS AND AMMONIA.

These important products have engaged the attention of Messrs. Davy and Macmurdo for many years past. By using nitrate of potash, or soda, free from contaminating chlorides, nitric acid of 1·500 specific gravity is obtained, perfectly free from chlorine, that very frequent accompaniment of so-called pure nitric acid. In like manner, by using similar pure materials, hydrochloric acid of great purity, and free from colour, is made in large quantities. Liquor ammoniæ of great purity is manufactured from good commercial chloride of ammonium. The compound obtained is thus rendered perfectly free from those coal-tar abominations existing in ammoniacal compounds derived from gas liquor, which are so perplexing both to the scientific chemist and to the practical pharmacist. Passing upstairs, and somewhat reluctantly compelled to leave undescribed the making of a dozen interesting preparations, we come to the upper floor of the building, where most of the wet processes are being carried on. Messrs. Davy have paid much attention to the manufacture of the double sulphate of ammonia and iron, first recommended for use as a developing agent by Mr. W. Crookes in the pages of the *Photographic News*. Although disapproving of the use of iron developers as a general rule, we must yet concede that very excellent results may be obtained with the new compound. It crystallizes in pale apple-green masses, readily soluble in water. Twenty-five grains to the ounce of water, with forty drops of Beaufoy's acetic acid and a few drops of alcohol, form a first-rate developer in cold weather. Looking round, we find numberless processes going on which engage our interest and attention: want of space obliges us only to mention a few of them. In a large leaden trough in one corner of the room, is a mass of iron turnings simmering in a solution containing citric acid in excess. When the iron is dissolved, the liquor is filtered, and liquor ammoniæ is added until the neutrality is reached. The solution is then evaporated down in large pans until it has reached a certain degree of concentration, after which it is allowed to cool, and sent to Upper Thames-street to be converted into scales. The ammonio-citrate of iron is one of the oldest and most esteemed of the very numerous scale preparations, and is made in large quantities by Messrs. Davy and Macmurdo both for the home and foreign markets. Tungstate of soda is now being manufactured in large quantities for use as an anti-flammable agent in starch. Messrs. Davy have just commenced making a very superior quality of this

article. The great difficulty in obtaining pure tungstate of soda arises from the commercial quality containing very appreciable quantities of both sulphate of soda and chloride of sodium, derived from the impure carbonate of soda from which it is made. Messrs. Davy, determined to obtain a pure article, commence by throwing down pure tungstic acid, which, when neutralized with carbonate of soda from the ordinary impurities, forms tungstate of soda of a quality not often obtained. A little further on, a boy is ladling emerald-like crystals of sulphate of iron from their mother liquors; and our nose soon informs us that a quiet, unassuming, harmless-looking still is silently at work making hydrofluoric acid. An immense demand has lately arisen for this substance by the glass-workers. Embossed and figured glass, which but a few years ago was almost entirely confined to the gin-palace, is rapidly making its way into private dwellings, and Messrs. Davy often find it difficult to keep up the supply: Taking a look at some fine crystals of our old pyrotechnic friends, the nitrates of strontia and baryta, we are glad to leave this floor, the chemical vapour bath in which we find ourselves being far from pleasant. Mr. Yates then shows us a series of ingeniously-contrived drying closets, and we reach the ground-floor once more, to take a second look at some benzoic acid, which was just beginning to sublime at the commencement of our visit. The wet process is adopted for procuring this beautiful product. Powdered gum benzoin is mixed with milk of lime and boiled, the resulting benzoate of lime being mixed with dilute hydrochloric acid. The precipitated acid is then sublimed in large iron pans covered with hoods, on the interior of which the benzoic acid crystallizes in the well-known feathery crystals. There are a large number of other operations going on, which tempt us to linger about the factory; but we remember that we have another establishment in Upper Thames-street to visit, and resisting the charms of alum ustum, prussic acid, and a dozen other substances of great interest, we pass out of the factory in a half-salivated condition.

THE UPPER THAMES-STREET ESTABLISHMENT

forms a large block of buildings at the eastern corner of Old Swan-lane, running half-way down towards the river Thames. As we have already mentioned, this factory, which also includes warehouses and counting-houses, is devoted to the production of the finer chemical products used in pharmacy and the arts. Once more under the courteous guidance of Mr. Yates, and this time accompanied by Mr. C. Davy, the head of the firm, to whose valuable exertions on the Exhibition Committee so much is due, we commence our inspection of the works with the ground-floor. The first things we are shown are the engine, which, like a heart, sends life and motion over the whole establishment; boilers for generating steam; grinding and crushing mills; and a machine for making mercurial ointment. The latter consists of a circular basin to contain the grease and mercury. A revolving fork, with a sixty-pounder round shot running on each prong, triturates the mass most perfectly and expeditiously. The rest of the basement is occupied with packing, bottle-washing, and other operations, with which we have nothing to do; so ascending a flight of stairs, we come to the floor where the fine chemicals are manufactured. It is hardly necessary to state that everything connected with this department is kept in a scrupulously clean condition. All the evaporations are carried on in double pans, the outer one being of iron, and the inner of Cliff's best stoneware. Between the two pans runs a steam-pipe, the heat of which is kept down to about 170° F., to avoid the possibility of decomposition from too great a heat in certain salts. Round the rooms are long counters, upon which are crystallizing various fine chemicals; and underneath these are hot-air cupboards for drying precipitates and crystals. We could not possibly attempt to describe the whole of the chemicals manufactured here; it would be simply transcribing the major portion of "Fownes" or "Miller;" suffice it to say that there is hardly a chemical compound to be named which Messrs. Davy do not keep in stock, whether for pharmaceutical, artistic, or purely scientific purposes. The contents of a few of the evaporating basins at work, will give a notion of the out-of-the-way substances which Messrs. Davy are obliged to make,—bromide of arsenic, arseniate of quinine, acetate of manganese, chlorate of baryta, oxalate of cerium, and so on. The

valerianates of iron, zinc, ammonia, and quinine are now being used as antispasmodics in rather considerable quantities for such uncommon compounds. Valerianic acid is now made entirely from fusel oil, the quantity obtained from the plant being too small to allow of its being profitably employed. Sulphuric acid and fusel oil are added to a strong solution of bichromate of potash, and distilled; the mixed distillate is saturated with carbonate of soda, and the separating oils are removed. The solution remaining is boiled to drive off all the oil, and is then decomposed by sulphuric acid. The distillate is once more rectified, and is now considered pure. As our readers know, there are few things on this earth that smell so vilely as valerianic acid and its compounds. Notwithstanding their disagreeable smell and taste, they are greatly esteemed for their curative effects. In a large pan, close by, which we are glad to cover up again as quickly as possible, is fermenting a mixture of cheese, sugar, and chalk, for the production of butyric acid and ether, used in the manufacture of artificial fruit essences.

In another part of the laboratory, a quantity of pure gold, sufficient for a well-paid curate's yearly stipend, is simmering in aqua regia in a huge evaporating basin, to form chloride of gold for photographic purposes. The chloride of gold supplied by Messrs. Davy and Co. in dry, well-formed crystals, is warranted to contain the exact equivalent of metallic gold. The same may be said of the double chloride of sodium and gold, made by them, which is much preferred by some photographers, as it can be weighed with greater ease, being a dry instead of a deliquescent salt. The other staple photographic material, nitrate of silver, is not now manufactured by Messrs. Davy and Co., the profit obtained on this article being so small as to leave the trade entirely in the hands of two of our principal assayers, who may be said to procure their raw material, metallic silver, at a reduced rate. To give our readers a notion of the profits of this branch of trade, we may mention that in one ounce avoirdupois of nitrate of silver there is metallic silver of the value of 2s. 11d., and that the dry salt is sold at 3s. 4d. wholesale, leaving exactly 5d. per ounce profit to cover loss, nitric acid, labour, interest on plant and capital, &c. &c. It will, therefore, be readily perceived that the temptation to adulteration in both of those articles is very great; so much so, that nitrate of silver containing 50 per cent. of nitrate of potash, and chloride of sodium and gold with about 5 per cent. of metallic gold, have been offered in the market. Ascending to the next floor, we find it occupied by numerous percolators, filters, stills, boilers, and pans for the preparation of galvanicals. Messrs. Davy have introduced into the market a quality of sulphuric ether for photographic use made from methylated spirit. *A priori*, there appears to be no reason why a mixture of the oxides of methyl and ethyl (as this ether would undoubtedly be) should not produce as good a collodion as the pure vinic ether, or oxide of ethyl itself. At first photographers seemed inclined to consider that any mixture of the methylic compounds in their collodion produced fogging; but it has been most satisfactorily proved that this fogging arose, not from the methylic compound itself, but from certain tarry contaminations from which it was very difficult to purify it. The quality of ether made from methylated spirit by this firm answers perfectly for the most delicate collodion; and considering that it is only half the price of that made from ordinary alcohol, it is worth testing to the very utmost by every practical photographer. The same remarks apply to the absolute alcohol made from the same source. We also examined and tested samples of sweet spirits of nitre made from both ordinary and methylated spirit, and found both specimens perfectly sweet and pleasant. By rubbing in the hands, a very slight methylic odour was perceptible in that made from methylated spirit; but testing them together, it was difficult to distinguish between them. We should be wearying our readers and taking up too much space if we were to describe the whole of the galvanicals made by Messrs. Davy. The whole are made in stoneware pans, heated by steam at a low pressure. Messrs. Davy are manufacturing glycerin of a very fine quality, almost equal to that made by Price's Patent Candle Company. The crude glycerin is derived from a foreign source, and before purification presents the appearance of rough petroleum. The purified article is as clear as water, is perfectly sweet, and has the same specific gravity as Price's. Large quantities of

the new and favourite American remedy, podophyllin, are now being manufactured by Messrs. Davy. It is readily made by exhausting the coarsely-powdered mandrake root with alcohol by percolation, and throwing down the resinoid principle with water. It is then washed, filtered, and dried at a temperature of about 90° F.

Passing up higher, we come to the floor where the three principal oils—almond, cod-liver, and castor oils—are being filtered. The numerous packing-rooms and store-rooms for bottles and general stock give us a good idea of the amount of business got through by this house. Climbing up a breakneck staircase, we come out on the roof, and find it to be one of the most important floors of the building. Here it is that all operations during which gases such as sulphuretted hydrogen are evolved, are carried on, far away from such delicate preparations as iodide of cadmium, which would soon be blackened and spoiled by even an infinitesimal portion of this compound. The greater part of the roof is, however, occupied by tables, on which are ranged brigades of bottles drawn up in regiments and companies according to their size, and containing almond, cod-liver, and castor oils, which are being gradually bleached by such little sunshine as we are favoured with in London. Thus, every cranny and corner of this large building is utilized,—except indeed, the chimney-pots; but even they will, no doubt, be put to some use in time by the ingenious managers of the firm. Descending once more to the counting-house, we find a large array of bottles drawn up for our inspection. They contain some twenty different specimens of artificial fruit essences, upon the perfection of which Messrs. Davy and Macmurdo—or we perhaps ought rather to say Mr. Routledge, one of the partners in the firm, particularly prides himself. It was at the Exhibition of 1851 that artificial essences first attracted any considerable attention. To speak somewhat generally, they are mixtures of different compounds, derived from valerianic, pelargonic, butyric, amylic, and several other acids and ethers. By judicious mixture in alcohol, artificial essences of nearly every fruit are made, some of which are absolutely perfect in their resemblance to the real fruit essence, while others leave a great deal to the imagination. Most of them are coloured to represent the juice of the fruit from which they are supposed to be derived. As a very little of them goes a long way, cheap fruit-syrups are made with them so easily, that we wonder at their not being more generally adopted. Now that many chemists' shops contain a syrup-table for the use of thirsty summer customers, we recommend them to our readers as subjects of experiment. We tasted a great number of them mixed with water and simple syrup, a few drops of weak acetic acid being added to bring out the flavour. We must award prize medals of the first class to the raspberry and ribstone pippin flavours, which are truly astonishing in their similarity to the real fruit. Then would come the black and red currant, the slightly musty flavour of the former fruit being wonderfully imitated; the pine apple and the pear; honourable mention being bestowed on the orange, the blackberry, and a number of others. The raspberry vinegar made from the essence is perfectly undistinguishable from the true compound. Having thoroughly tested these specimens of his skill, we hesitatingly ask Mr. Routledge for some particulars, but we find that it is impossible for him to give them to us. With sundry bottles of ethereal compounds before him, ranged like the colours in a painter's palette, he adds ounces of one, drops of another, and mere hints of others, until he ultimately finds that he has made the essence required. We might as well ask the artist how he mixes his russets and purple greys, as ask Mr. Routledge how he makes artificial ribstone pippins and raspberry out of ethers whose origin is to be sought for in stinking cheese and the foulest fusel oil.

In taking our leave of the very interesting works of Messrs. Davy, Macmurdo, and Co., we feel that our best thanks are due to the firm generally for giving us every possible assistance and information we could desire; and in particular to Messrs. Davy and Yates, for acting as our guides on several occasions: not forgetting Mr. Routledge, who so pleasantly surprised our palate, and Mr. Mason, the scientific chemist of the firm, who kindly enlightened us on numerous points of a technical nature.

NEW REMEDIES.

BAPTISIA TINCTORIA—WILD INDIGO.

THIS small shrub, the *Sophora tinctoria* of Linnæus, and *Podalyria tinctoria* of Michaux, is a perennial, indigenous to the Northern States of America, where it is met with in most parts, growing abundantly in woods and dry barren uplands. It belongs to the natural order *Leguminosæ* or *Fabacæ*—the Leguminous Order.

BOTANY.—The stem, which grows to a height of from one to three feet, is very much branched, and smooth. The leaves are ternate, cuneate-obovate, small, and of a bluish colour. The flowers, which bloom during the months of July and August, are yellow, and, like the whole plant, become black when dried.

CHEMISTRY.—The rhizomes, commonly but improperly termed “roots,” are of a dark brown colour, inodorous, and possess a nauseous, somewhat acrid taste. The virtues of the plant are stated to reside chiefly in the cortical portion of the rhizome; consequently, they are to be preferred to the stems and leaves when they are to be procured. The whole plant abounds with a substance having a close resemblance to indigo, if not identical with it. It is, however, much inferior to it as a colouring principle. Both rhizomes and leaves yield their virtues to alcohol and water. No satisfactory chemical examination appears to have been as yet made; but, besides the colouring principle already mentioned, it is said to contain tannin and a peculiar acid not yet isolated. One of the so-called concentrated preparations termed *Baptisin* is also obtained from it. *Baptisin* is a yellowish-brown powder, having a bitter persistent taste, and is considered to represent all the active constituents of the plant. It is insoluble in alcohol, ether, water, volatile oils and chloroform, but is partially soluble in the caustic alkalis.

MEDICINAL PROPERTIES.—Tilden and Co., in their Book of Formulæ,* state that it is “principally used on account of its antiseptic virtues. It is an excellent application as a wash or gargle to all species of ulcers, as malignant ulcerous sore mouth and throat, mercurial sore mouth, scrofulous or syphilitic ophthalmia, &c. Internally it acts powerfully on the glandular and nervous systems, increasing all the glandular secretions, and arousing the liver especially to a normal action.” A writer in our contemporary *The Lancet*† states that “the primary action of a full dose is emetic or purgative, but in smaller doses is stimulant, and its special property is antiseptic, producing, it is said, a striking change in the type of fevers; relieving the symptoms designated *pernicious* or malignant in scarlatina, typhus and other fevers, inflammations and ulcerations of the mouth and throat. It is applied externally, at the same time, to foul ulcers and sloughing or gangrenous sores, and as an injection in fetid discharges from the mucous passages: in short, in all cases where there is a tendency to putrescence. The dose of *Baptisin*—from one to five grains—purges, and produces nausea and vomiting; but in quarter-of-a-grain doses it is alleged to manifest the same antiseptic, anti-pernicious or anti-malignant power as the decoction of the plant, and thus to be especially valuable combined with the cholagogues—podophyllin, leptandrin, irisin; or the anti-periodics—quinine or the barks; or the calmatives—actæa, henbane, conium, &c.”

Dr. Comstock, of Rhode Island, is stated “to have found it extremely useful, both as an internal and external remedy, in threatened or existing mortification. He administered it in the form of decoction, made in the proportion of one ounce of the rhizome to one pint of water, of which half a fluid ounce was administered every four or eight hours, any tendency to operate on the bowels being checked with laudanum. Dr. Stevens of Ceres, Pennsylvania, has employed a decoction of the rhizome advantageously in epidemic dysentery; and Dr. Thacher speaks highly of its efficacy as an external application to obstinate and painful ulcers.

PREPARATIONS AND DOSES.—The following are given by Messrs. Tilden and Sons in their Book of Formulæ:—*Baptisin*, gr. $\frac{1}{2}$ to gr. ss.; fluid extract, grs. xv. to ʒss.—They also give formulæ for the preparation of a tincture, infusion, and gargle. It is likewise sometimes employed as an external application in the form of cataplasm or decoction.

* Page 16.

† Feb. 14, 1863, p. 190.

THE ROLL OF THE PHARMACEUTICAL SOCIETY.

As we have more than once been taken to task for understating the numbers of the Pharmaceutical Society, we think it right to publish the following computation of the complete list of Members, Associates, and Apprentices, just published in the *Journal* of the Society:—

MEMBERS.	With Certificate.	Without Certificate.	Total.
Honorary	56	56
Foreign and Colonial Life ..	28	12	40
London	67	333	400
Country	267	1,285	1,552
	362	1,686	2,048
ASSOCIATES.			
Admitted before July, 1842	26	26
Passed Major Examination ..	160	..	160
Passed Minor	176	..	176
	336	26	362
REGISTERED APPRENTICES	512	512
Grand Total	698	2,524	2,922

The first column gives the numbers of the Members and Associates who hold certificates of examination. Some of our readers will doubtless be surprised to find that the Society has not 2,000 paying Members, and that only 362 Members have passed the examinations.

THE NEW OILS.

PATENT COLZARINE OIL.

CASELL, SMITH, AND CO., FENCHURCH STREET.

THE oil at present under notice is an ingenious application of the mineral oils to a new use, namely, their employment in moderator, carcel, and other fat oil lamps; the object of M. Martin's patent being the modification of mineral oils so as to fit them for burning in lamps where colza and other vegetable and animal oils have been usually consumed. A sample of oil has been forwarded to us for examination, and we have tested it as far as practicable. In colour the oil is of a very pale yellow, having a somewhat thin, oily character. Its odour is very slight, and free from any disagreeable character. Its specific gravity is .835. Heated to 108° F., it commences to give off a slight vapour which is not penetrating or offensive. But what appears very remarkable, is the well-ascertained fact that this vapour does not admit of being inflamed until the liquid is raised to the extraordinary high temperature of 260°. In this freedom from inflammable character, this oil far surpasses any other that we have examined, requiring to be heated to nearly 50° above the temperature of boiling water before it can be ignited.

With regard to its illuminating power, it rises freely through the wick, and ignites without difficulty. Burnt without a chimney, the flame is much more smoky than colza oil would be if burnt under the same conditions. With a chimney, it gives a very clear, white flame, perfectly free from any tendency to smoke, and retaining its white character to the upper margin. It burns steadily, being free from spurts and quite destitute of smell. It does not clog the wick, but rises freely and steadily, and burns in a lamp with a deflecting cone or in a common paraffin lamp for many hours without

depositing any carbon on the upper part of the wick; and, as might be anticipated from its specific gravity and the absence of the lighter oils, its rate of burning is slow, and consequently economical. This oil is, however, manufactured specially for the Patent Colzarine Moderator Lamp.

BELGIAN RAPE OIL.

MR. VICKERS, 32, ALDERSGATE-STREET, E.C.

RAPESEED oil, as it is first expressed from the seeds, contains a very large amount of coagulable vegetable albumen, and requires careful purification before it is fit for use. Several processes have been recommended for this purpose, such as charring them with sulphuric acid, or by the employment of chloride of zinc. A third method is to decompose the impurities by heat, and a fourth by the action of caustic soda. Whatever agent is employed, the subsequent separation of the altered albumen requires to be very perfectly performed, otherwise the oil remains impure. The sample of rape oil supplied by Mr. Vickers is one that has been exceedingly well purified; it is perfectly bright and clear, of a very pale yellow, limpid, evidently very free from mucilage, and possesses in the smallest degree the characteristic smell and taste of rape or seed oil. It is an exceedingly good oil, and is well adapted for all the purposes to which rape oil is applied.



SARACENIA PURPUREA IN SMALLPOX.

DOCTORS differ more than ever as to the value of the reputed remedy for smallpox which was so fully described in our January number. Surgeon-Major Cosmo G. Logie, of the Horse Guards, states that he has given *Saracenia purpurea* successfully in eleven cases of the disease, the patients having rapidly recovered under its peculiar influence. "This remedy," he writes, "I consider a boon to the public, for this reason—it is so easily managed; any one can make a decoction or infusion of the root, like tea. An ounce of the root is sliced and infused in a quart of water and allowed to simmer down to a pint, and given in two-tablespoonful doses every four hours, while the patient is well nourished with beef-tea and arrowroot. Four of the cases in my hospital have been severe confluent cases; they have throughout the disease all been perfectly sensible, have had excellent appetites, been free from pain, and have never felt weak. The effects of this medicine, which I have carefully watched, seemed to arrest the development of the pustules, killing, as it were, the virus from within, thereby changing the character of the disease, and doing away with the cause of pitting (if I may so express myself to the uninitiated), and thus avoiding the necessity of gutta-percha and india-rubber applications, or of opening the pustules. In my opinion, all anticipations of disfigurement from pitting may now be calmed, if this medicine is given from the commencement of the disease. Before leaving this subject, I may here caution the public that the useful part of the plant is its root, as recommended by Dr. Miles, and it can only be obtained from Messrs. Savory and Moore, to whose house alone it has been imported."

Dr. Dudfield, of Kensington, believes that Mr. Logie has given the drug credit for effects which really proceed from vaccination. Referring to the passage we have quoted above, this physician writes—

"This description, so far as it goes, agrees with the course of many cases of smallpox occurring in vaccinated persons (modified smallpox), in whom there is generally no

'pitting.' I am therefore tempted to inquire whether the subjects of these eleven cases had ever been vaccinated? I have myself little doubt they had, and I incline to the belief that the modification of the disease was due rather to that circumstance than to any influence possessed by the *Saracenia purpurea*, a 'remedy' which has been largely used by some other practitioners, and by them stated to possess no 'peculiar' or any other influence over the progress of smallpox."

THE ORDEAL BEAN OF CALABAR.

The following notice by Mr. W. B. Tegetmeier appears in the *Intellectual Observer* of the present month:—

"At the conversazione held at University College on the 10th of June, Professor Harley exhibited specimens of the bean employed by the King of Calabar as a poisonous ordeal to determine the guilt or innocence of accused persons.

"The plant yielding this bean is kept secret from the natives generally, and the seeds are consequently to be obtained only with great difficulty. The name that has been given to the plant is *Physostigma venenosum*, or Calabar ordeal bean. It belongs to the Leguminous tribe, having distinct papilionaceous flowers, succeeded by pods about six inches in length, each containing four or five seeds, having white cotyledons, resembling in taste the seeds of the common haricot, *Phaseolus vulgaris*. The leaves are ternate.

"Taken internally, the beans, unless rejected by vomiting, produce fatal paralysis. In some experiments made in this country, it has been found that twelve grains have produced partial paralysis, threatening to be serious in its results. In the course of investigation into its properties, it has been ascertained that the extract of the bean possesses a most extraordinary power over the iris, a few minims of its solution dropped into the eye causing contraction of the pupil to such an extent that the aperture becomes entirely obliterated, and the eye possesses the appearance of having an imperforate iris. In order to demonstrate this action more fully, and to contrast it with the opposite effect of a solution of belladonna, a cat was exhibited, to one eye of which belladonna had been applied several days previously, causing dilatation of the pupil to such an extent that the iris was scarcely visible; to the other eye a solution of the ordeal bean had been applied, which caused obliteration of the pupil. The contrast between the two eyes of the animal was of the most marked character, and imparted a strange weird expression to the face. In the course of the evening the pupil dilated somewhat—the effect of the *Physostigma* passing away gradually in the course of about twenty-four hours, whereas that of the belladonna persists for many days. Specimens of the plant have been raised in this country from the imported seeds."

A CURIOUS INSTANCE OF ELECTROLYTIC ACTION.*

Mr. Abel, the Chemist of the War Department, lately communicated to the Chemical Society the results of his observations on the blistering of the lead coatings of a few of the iron projectiles commonly used in Sir William Armstrong's rifled ordnance. The shot consists mainly of cast-iron, and for the purpose of fitting tightly the bore of the gun is coated with an alloy known as "soft metal," which consists of lead mixed with a small proportion either of tin or antimony, the steps of the manufacture being thus described:—According to one plan, the iron is turned down a little smaller than the required gauge, and then grooved out or "undercut" so as to present a number of projecting ridges by which the attachment of the lead is afterwards secured; it was then found that the unequal rates of expansion ultimately severed the connexion of the two metals, and gave rise to inequalities upon the finished surface. These were, however, very different in appearance from the blisters which were discovered under some circumstances to be produced upon shot coated by the second or "galvanizing" process; to illustrate which Mr. Abel exhibited a photograph of the 110-pr. shot which was sealed as a pattern in November, 1861, and had been kept in a glass case since that time. Besides several small blisters, one of these measured 1.1 inch in width, and was raised about a quarter of an inch from the true surface. On puncturing this under

* *Chemical News*, July 11.

water, a somewhat considerable volume of gas escaped, which on careful examination proved to be pure hydrogen, and on comparing then the bulk of gas collected with the internal capacity of the blister it was found to have existed under a pressure of ten atmospheres. Reverting now to the process of manufacture, the origin of this gas would become apparent. The iron shot were turned flush, and coated with zinc as a preliminary to the attachment of lead; this was accomplished by heating the projectiles directly they left the lathe in an oven which was graduated so as eventually to impart a temperature nearly that of the fusing point of zinc; they were dipped for a moment into a solution of sal-ammoniac, and then immediately into a bath of melted zinc; from this they were passed directly into a bath of "soft metal," which adhered perfectly to the galvanized surface, and this coating could then be increased to any extent by supporting the shot in a mould and pouring the lead alloy around it. Among a vast number of Armstrong projectiles which had been made in this manner, a very small proportion only exhibited the peculiarities described, and no practical inconvenience had been felt sufficient to warrant a change in the process, since these blisters when observed might easily be punctured and flattened down, the small orifice being afterwards closed with solder. It was evident that water or some hydrogen compound must be enclosed at an early stage of the process, and afford by its electrolytic decomposition the gas which, gradually accumulating, exerted the disruptive action already noticed. In tracing its probable origin, Mr. Abel discovered that chloride of zinc, when once combined with water, could not be again rendered perfectly anhydrous by exposure to a degree of heat somewhat above the melting point of zinc; for on throwing fragments of zinc into the fused chloride they were quickly melted, giving rise to the production of hydrogen gas, and the formation of an oxychloride of the metal. It was not difficult to suppose a similar change occurring in the lapse of time at the ordinary temperature; chloride of zinc would undoubtedly be formed by the action of the sal-ammoniac flux upon zinc or its oxide, and this might readily attach itself to slight asperities upon the surface of the shot, become hydrated, and ultimately enclosed within the lead coating. The torn, fibrous aspect of the metal on the inner surfaces of the blister, and the detection of chlorine in the cavities, confirmed these opinions, and pointed directly to the origin of these remarkable appearances upon the Armstrong shot.

The President expressed his surprise on hearing that so thin a coating of lead had effectually prevented the diffusion of the hydrogen.

Dr. Franklin inquired whether these blisters appeared at once, or only after the lapse of time.

Mr. Abel replied that the whole of these projectiles had passed an inspection before being received into store, and that it was only on subsequent examination that the faults were noticed. Some few instances were reported from distant stations, and all were doubtless the work of time.



Objects for the Microscope. By L. LANE CLARKE. Second Edition. Groombridge and Sons. 1863.

So large a number of our subscribers are practical microscopic observers, that we have much pleasure in directing their attention to this work, which, as its name implies, is a description of the most beautiful and instructive objects for examination under the microscope.

Aided by the directions here given, the microscopist will be able to make a large

collection of the most valuable and useful objects, and will here find their history and most salient peculiarities pointed out. We do not know a more useful little companion for the microscope than this practical treatise,

A Dictionary of Chemistry, &c. By HENRY WATTS, B.A., F.C.S. Part V. Carbon—Chyle. Longmans. 5s.

The most important article in the present part is that on Chemical Affinity, which elucidates the great laws of chemical action, and reviews the different hypotheses which have been proposed to account for the phenomena of chemical combination. This article is from the pen of the learned editor, and is, to our thinking, the best treatise on Affinity in the language. The article on Cereals comprehends four long tables which show the per-centage composition of the different cereal grains as well as that of the ash of the straw and chaff. The elements Carbon, Cerium, Chlorine and Chromium, and their compounds, are minutely described.

We are delighted to find the following amendment of the original prospectus on the cover of the new part:—

"The Dictionary was at first intended to consist of 3,000 pages, making three volumes; but, as the work has advanced, these limits have been found too narrow to include the vast and continually increasing store of facts with which the science of chemistry is enriched, without sacrificing in the latter portion of the work that fulness of detail which, to judge from recent criticisms, appears to be regarded as one of its most useful characteristics. It has, therefore, been resolved to extend the work to 4,000 pages, making four volumes, and to be completed in twenty-one monthly parts. With this extension, it is hoped that the Dictionary will afford a satisfactory representation of the existing state of chemical science.

"H. W.

"July 1863."

* * We have received from Mr. Churchill some useful medical books which ought to be added to every Chemist and Druggist's library of reference. We will review these works next month.



EFFERVESCING GRANULATED AMMONIO-CITRATE OF IRON.

UNDER this title Messrs. Savory and Moore have forwarded samples of a very elegant effervescing preparation, which when dissolved gives a clear, transparent, sherry-coloured solution, that possesses a pleasant flavour, and is one of the most agreeable of the preparations of iron that have come before us. In those cases where a patient has to continue the use of iron for a long time in small or moderate doses, we cannot imagine a more desirable article. It is one that could be taken by the most delicate lady without exciting nausea or disgust; and, therefore, in many cases it would be far superior to the ordinary forms in which this remedy is usually exhibited.

DUNCAN'S RATAN CANE SPLINTS.

THESE splints are constructed of slender ratan canes, connected at the ends and in the centre by means of thin canvas, as shown in our representation. Their method of construction gives them such a degree of flexibility as insures their fitting a limb of any



degree of stoutness; whilst they are sufficiently firm lengthways to afford the required support to a fractured or injured limb. In use they are particularly light and

cool, permitting the escape of the perspiration, and consequently producing much less irritation of the skin than the ordinary leather-lined wooden splints. For military purposes, their extreme lightness renders them peculiarly appropriate; and as they are not connected by means of glue, like the old wooden splints, they are not injured by moisture, and can readily be cleaned by washing.

For lightness, coolness, and durability, they are certainly very far superior to common splints; and they have consequently received the marked approbation of the officers of the Army Medical Department. For exportation they appear well adapted, as they weigh very little, and the different sizes admit of being packed together in a very compact and portable form.

They are manufactured by Messrs. Savory and Moore, New Bond-street, and are made both without pads, as represented, or padded as may be required for any particular case.

HINKS AND SONS' PATENT NIGHT-LAMP.

NOTWITHSTANDING the economy and convenience in use of the mineral oils, they have not been hitherto successfully adapted to the purpose of night-lights, as with the small round wicks that have been previously employed there has always been imperfect combustion in the centre of the flame, and a consequent odour from the escape of some unconsumed oil. The elegant miniature lamp represented in the cut has been designed by Messrs. Hinks and Sons, of Birmingham, to obviate this difficulty. By the employment of a small flat wick, a very thin flame is insured. The deflecting cone has a circular opening, and is so arranged that a strong current of air is uniformly directed against all sides of the flame; thus the most complete combustion of the oil is rendered certain, and there is consequently a total absence of smoke or smell.

This combination of flat wick with circular cone acts so efficiently, that the tall chimney usually required to insure a sufficient current of air is unnecessary, one of four inches in length being amply sufficient: this lessening of the height renders the whole much more compact and convenient when in use, diminishing greatly the liability to be overturned. Some of these lamps are constructed of dark red ware ornamented with enamel, and they constitute really elegant little appendages to the bedroom.

When the flame is slightly turned down, they can be carried about without smoking. From their novelty, elegance, convenience and economy in use, they are certain to command an extensive sale in those chemists' shops where night-lights are sold. In several respects they are far superior to the ordinary night-lights: they can be readily carried about from one room to another, and they can be instantaneously turned up, so as to afford ample light without the necessity of lighting a candle or lamp, as is the case when the ordinary night-lights are employed. They can be readily made to furnish the light of two candles, and from the steadiness and brilliancy of the flame are well adapted for working with the microscope. One fixed on the sliding clasp of a retort stand gives ample light for any investigations.

Whatever may be thought of the old objection to placing round men in square holes, and *vice versa*, we can testify from experience that a flat wick in a circular cone is a very successful combination.

SAVORY AND MOORE'S DILUTED CAUSTIC POINTS.

MESSRS. SAVORY AND MOORE have forwarded for examination two samples of diluted caustic points;—one consisting of equal parts of nitrate of silver and potassium; the second, of one part of the silver salt to two of that of potassium. These points are of a conical shape, and of such a size as to fit the ordinary caustic-holders; they are tough in character, and can be easily cut to any required form. In those cases where a milder caustic is required, their use will prove particularly advantageous, especially in cases of ophthalmic surgery, as the caustic action can be diluted to any required extent.

Exposed to the air, these points remain unchanged, not having the slightest disposition to deliquesce. In describing them, we have spoken of them as consisting of nitrate of silver and potassium,—this term is copied from the label,—but it must not be inferred that metallic potassium enters into their combination. In reality they are composed of nitrate of silver and nitrate of potassium; the latter term is now for the sake of uniformity employed by many chemists,



the term oxide being understood in all cases. Common nitre is as correctly called nitrate of potassium, $\text{NO}_3 + \text{K}_2\text{O}$, as lunar caustic is called nitrate of silver, $\text{NO}_3 + \text{AgO}$. They are respectively nitrates of the oxides of potassium and of silver.



UNITED SOCIETY OF CHEMISTS AND DRUGGISTS.

POISONED GRAIN BILL.

The Executive of this Society have been in attendance at the House of Commons to watch the progress of this Bill, which was read a second time on Wednesday, the 8th inst. The Bill was, however, read only *pro forma*, and it was agreed by the promoters that exemptions should be introduced in favour of the use of arsenic for the dressing of sheep, and for *bona fide* agricultural purposes.

PROPOSED AMENDMENTS OF THE MEDICAL ACT.

The Committee of this Society have agreed to offer, on behalf of the trade, the most strenuous and determined opposition to the Medical Council if they persevere in the proposal of their Committee, that the legal right to compound medicine shall be confined to licentiates of the Apothecaries' Company, members of the Pharmaceutical Society, and candidates approved of by themselves. In return, the United Society ask for support, by the trade enrolling as members, and to forward their views for a General Act of Incorporation, based upon a recognition of all existing interests.

THE LATE MR. WESTERN WOOD, M.P.

The following note has been received from the widow of the estimable gentleman whose death we recorded last month. By printing it here, we insure its circulation among many who will long remember the generous actions of Mr. Western Wood, and who will read with sorrowful interest the touching words of one who knew him best:—

“North Cray-place, Kent, June 17, 1863.

“SIR,—May I beg you to convey to the gentlemen forming the Committee of the ‘United Society of Chemists and Druggists’ my own and my family’s united thanks for their letter of condolence upon the lamented death of my beloved husband? To me, a bereaved and broken-hearted woman, one solace is given—the knowledge that he whom I so deeply mourn was appreciated by those for whom he worked; and this conviction affords to my heart one of the few pleasures it can ever know again. Thanking you for your own letter, I remain, Sir, yours faithfully,

“C. F. Buott, Esquire.”

(Signed)

“SARAH LETITIA WOOD.

REMOVAL OF OFFICES.

The offices of the United Society are removed this day to more convenient premises, at 20, New Ormond-street, W.C.

LAW AND CRIME.

FARRELL v. POUND.—A FATAL MISTAKE.

While our last number was being printed, the trial of this cause was going on in the Court of Queen’s Bench, before Lord Chief Justice Cockburn and a special jury. The action was brought by the widow of a labouring man, of 7, Poole’s-place, Gray’s-inn-lane, against a chemist and druggist carrying on business in Leather-lane, Holborn, to recover compensation for the loss of her husband, who at the time of his death was about fifty-five years of age, and earning, in constant employment, a guinea per week. It appeared that the deceased was in the habit of taking salts and senna, and on Saturday night, the 23rd of August, he and his wife, on returning from marketing, went into the defendant’s shop and asked for one pennyworth of salts and one pennyworth of senna. They were served with two packets, but on reaching home the plaintiff discovered that one packet did not contain senna, and to all appearance the contents of each were salts. She went back with both, but the shop was closed, and her husband on her return, thinking both packets were salts, said he would take one of them. The plaintiff gave the smallest packet, and her husband became very ill, sick, and purged, and in ten minutes expired. It was then

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discovered that he had been poisoned, and that the packet contained oxalic acid. The other packet was really Epsom salts, and, although the papers had printed upon them "Epsom salts" and "Oxalic acid—Poison," respectively, neither husband nor wife could read, and hence the lamentable mistake.

On the part of the defendant, it was suggested that the poison was not supplied from Mr. Pound's shop; but it came out in the course of the trial that on the day after the death the defendant's attention was called to the unused packet being labelled with his name and address, and the learned judge, in summing up, said it was a great pity defendant's counsel should have been instructed to suggest that Mrs. Farrell was untruthful and inaccurate when she said she had purchased the packets at defendant's shop, while it was perfectly well known to the defendant and quite clear that she was correct in that statement. It was also suggested on the part of the defendant that the plaintiff had contributed to the death by her own negligence, as she must have taken up a packet of oxalic acid intended for another customer, instead of the packet of senna with which she was served; but Mr. Pound admitted that no customers afterwards came to him to say that he or she had asked for oxalic acid and received a packet senna of which they did not want. Then it was urged that Mrs. Farrell ought to have noticed that the two packets were not wrapped in the same coloured paper. But the learned judge observed, in summing up, that it was rather too much to expect this poor woman to remember at a distance perhaps of twelve months, that the last time she bought salts and senna of Mr. Pound they were served to her in wrappers precisely similar.

The jury, without hesitation, found a verdict for the plaintiff—Damages, £100.

DELETERIOUS VAPOURS AND GASES FROM IRONWORKS.

During the month a case has been tried in the Jury Court, Edinburgh, before Lord Barcuple, in which Messrs. Cooper and Wood, bottle manufacturers, Portobello, claimed £1,000 damages against the North British Railway Company for injury sustained by the house and grounds of Baileyfield, Portobello (of which the pursuers are proprietors), from smoke, dust, and gases discharged from the defenders' works for converting and hardening iron rails. The works in question were erected about three years ago on a narrow strip of ground left vacant between a curve formed for the improvement of the Leith and Portobello branch line and the original railway track, and they were separated from Baileyfield only by the railway line and the Leith and Dalkeith road running alongside. The pursuers alleged that clouds of smoke and dust, as also deleterious gases, were constantly thrown out in large quantities from fourteen low chimneys, rendering the residence at Baileyfield unhealthy and unsafe, or, at least, uncomfortable, and drying up and wasting the trees, shrubs, and vegetation. It was accordingly put in issue whether the house and grounds of Baileyfield were deteriorated by the defenders' works, and the comfort of the occupation impaired, to the nuisance of the pursuers, and to their loss, injury, and damage. A large number of scientific witnesses, including chemists, medical practitioners, architects, and horticulturists, were examined on both sides. The evidence was to a great extent conflicting, but it seemed to be proved that the vegetation had, since the erection of the furnaces, been considerably injured, and that the comfort of the occupation had been interfered with. The jury were divided in opinion, but by a majority of nine to three they found for the pursuers, with £200 damages.

POISONING IN PRUSSIA.

During the month a most remarkable trial for murder by poison has been held in Berlin. The accused were the widow Knothe, aged forty-seven, and a working mason, named Steinmann, twenty-seven years old; the victim was Knothe's husband, a colour-maker, in comfortable circumstances. The poisoning had been carried on for a long time before death ensued, and the circumstances of the case showed atrocious deliberation and a most determined purpose, on the part especially of the woman, who appears to have been infatuated by her passion for her accomplice, with whom she had for some time carried on an adulterous intimacy, and from whom she had obtained a promise to marry her should she become a widow. The appearance of the criminals made an unfavourable impression upon the persons present in the court. The woman is a little, thin person, with a pallid countenance, prominent cheek bones, and a hoarse voice. Steinmann has rather regular features; but his countenance, bearing, and answers all betrayed great stupidity. The death of Knothe took place in November last year, and although the symptoms, as described upon the trial, certainly seem to have been of a suspicious nature, the doctor in attendance suspected nothing, was misled by the wife, who described her husband as having been addicted to the abuse of ardent spirits, and gave an ordinary certificate of death. Two days later, an anonymous letter which he received, and at once handed to the police, led to an examination of the body, in which

a quantity of arsenic was found. In the judicial investigation that ensued, it transpired that for upwards of a year, during which time Steinmann had lodged in the Knothes' house, there had been frequent quarrels between the husband and wife, the former suspecting her intimacy with the mason, and insisting that he should quit the house. When arrested, the accused at first denied their guilt; but, it having been proved that shortly before her husband's death the woman had bought a pound of arsenic, Steinmann made a confession, which she afterwards in all essential points confirmed. It appeared that they had tried various kinds of poison, and that the attempts were for a long time unsuccessful. "If I had but hemlock or nightshade!" the woman often exclaimed. Not having them, she tried aquafortis for about three weeks, in such doses as she could venture to give, mixed in her husband's drink; but she succeeded only in making him ill. She then thought of quicksilver, and scraped it off a looking-glass, mixing it with sauerkraut. As this did not suffice, she took Steinmann with her to Frederick's-heath, in the neighbourhood of Berlin, to pluck hemlock, which she next day put in her husband's soup. Nightshade was sought for, but could not be found, and at last she thought of arsenic, which finally proved effectual. In the course of his confession, Steinmann declared that he had never loved Knothe, and had no intention of marrying her; but, as her husband had a good business, he reckoned on profiting by it after his death. The woman, on the other hand, said that from the first moment she had seen her paramour she had conceived a violent passion for him, and that she loved him more than ever now that they were shortly to die together. Nevertheless, she endeavoured to make it appear that it was not she, but Steinmann, who administered to her husband the dose that determined his death. The two wretches were found guilty of murder, and condemned to the scaffold. Decapitation is the mode in which capital punishment is still carried out in Prussia. It takes place within the precincts of the gaol, in presence of a certain number of persons, invited as witnesses.

ACCIDENTS.

ANOTHER DEATH THROUGH "BURNETT'S DISINFECTING FLUID."

On Monday, the 29th ult., an inquest was held at the Bricklayers' Arms Inn, Croydon, before Mr. Carter, coroner for East Surrey, and a jury, touching the death of Emily Evans, seventeen years of age, the daughter of Mr. J. Evans, fishmonger, of Meadow-stile, Croydon, who died on the previous Friday evening from the effects of "Sir William Burnett's patent disinfecting fluid," which was given to her at her own request by her little brother, aged seven years. It appeared from the evidence of the deceased's father that she had been for some time confined to her bed by an attack of smallpox, being attended by Mr. J. J. Johnson, surgeon, Croydon. About five o'clock on the Friday evening Mr. Evans was attracted to the deceased's bedroom by screams, and on proceeding upstairs saw her vomiting. He said, "Good gracious, what is the matter?" Deceased replied, "Oh! father, I have drunk a glass of the stuff from that bottle," pointing to the mantelpiece, where the bottle which contained the disinfecting fluid stood. He said, "How did you come by it?" She answered, "I asked my brother Charles (who was present in the bedroom) to pour me out some, and I took half a glassful." There was no other bottle on the shelf, her own medicine being placed by her bedside on a chair within her reach. It was believed by the father that the deceased knew the fluid was of a poisonous nature, because when it was procured she remarked to her mother, "Is this stuff similar to that which I heard you reading of in the paper, that a servant gave to a lady, who died from it?" The mother replied at the time that she did not know it was so poisonous as all that. The fluid was bought on the recommendation of Mr. Johnson, as the smallpox had been in the house among the family. The deceased took half a wine-glass of the disinfecting fluid at five o'clock, and died at ten minutes before seven. Mr. Johnson was sent for, but, not being at home, did not arrive till after the girl had died. The Coroner having explained the legal points of the case, the jury viewed the body, and afterwards returned a verdict that the deceased's death was the result of accident, at the same time adding they were of opinion that a fluid of so dangerous a nature to human life as Burnett's patent disinfecting fluid ought not to be sold without proper precaution being taken to show that it is poisonous. The Coroner said he would write to the firm and enclose them a copy of the verdict.

GENERAL NEWS.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

The Autumn Session of the College commences with almost an entirely new staff of officers. The chair of Chemistry, recently vacated by Professor Voelcher, is now filled by Mr. A. H. Church, whose name is well known as having made many original re-

searches into the composition of the more complex organic bodies, and whose zeal and energy in chemical investigations promise well for the students of his class. Mr. Church appears to be peculiarly fitted for this chair, as he possesses a sound knowledge of botanical science. The chemical assistant is Mr. R. Warrington, jun. In addition to the regular routine of study, arrangements have been made for special courses during the next session. Professor Anderson, of Glasgow, gives a series of lectures on the application of chemistry to agriculture; and many other courses are proposed which bear on the agricultural pursuits of the student.

PARLIAMENTARY INTELLIGENCE.

ALKALI WORKS REGULATION BILL.

In the House of Commons there has been considerable discussion upon this bill during the past month. The clause enacting that every alkali works shall be carried on in such manner as to secure the condensation of not less than 95 per cent. of the muriatic gas evolved therein was agreed to without a division.

Mr. Vivian moved a new clause enacting that, in the case of offences committed by workmen without the knowledge and against the orders of the owner, the workman should be liable to the penalty. This clause was carried by a considerable majority.

On the motion of Mr. Bruce, a clause was added, providing that the inspectors and sub-inspectors should be paid such salaries as might be determined by the Board of Trade, with the consent of the Treasury.

On the motion of Mr. Bouverie, a clause limiting the duration of the Act to July 1, 1868, was agreed to.

The bill passed through Committee on the 8th inst.

BILL FOR THE PREVENTION OF ACCIDENTAL POISONING.

In the House of Commons, on the 30th ult., Lord Raynham moved the second reading of this bill, the object of which was to require the adoption of certain precautionary means so as to guard against accidental poisoning. Sir G. Grey objected to some of the provisions of the bill as unnecessary, and moved as an amendment that the bill be read that day three months. The amendment was agreed to without a division, and the bill was therefore lost.

The bill we print below for the amusement of our readers:—

"1. From and after the first day of November, 1863, no substance of a poisonous nature, or calculated to injure or endanger human health or life if taken internally, shall be sold or exposed for sale by retail in any paper or other packet, but only in a glass phial or bottle of a hexagonal shape, of which five sides shall be fluted, and on the remaining side thereof a label shall be affixed, with the word "Poison" and directions for use distinctly marked thereon; and every person who shall act in contravention of this Act shall for every such offence, on a summary conviction for the same before two justices of the peace at petty sessions in England, and in Scotland before two justices of the peace in justice of the peace court, or before the sheriff substitute of the county, or before justices at petty sessions or a divisional justice in Ireland, forfeit and pay a penalty not exceeding five pounds, together with such costs attending such conviction as to the said justices shall seem reasonable; and if any person so convicted shall afterwards commit the like offence, it shall be lawful for such justices to cause such offender's name, place of abode, and offence to be published, at the expense of such offender, in such newspaper or in such other manner as to such justices shall seem desirable."

Our contemporary the *Chemical News* makes the following remarks upon this preventive measure:—

"It will serve to show our readers the amount of practical knowledge which those who aspire to legislate for them possess. Fancy a Chemist unable to procure the smallest quantity of a poisonous reagent except in a hexagonal bottle, of which five sides shall be fluted, &c., and the impossibility of retailing a pennyworth of oxalic acid or sugar of lead, except in a vessel of the same shape, with directions for the multitudinous uses to which these articles are applied!

"We have already, as our readers know, advocated the use of special bottles for poisonous external applications and dangerously concentrated remedies, and we still recommend that plan to be adopted. For the rest, the prevention of accidental poisoning must be left to the exercise of common prudence on the part of the public, while the Druggist may be made to pay the legal penalty of any mistake on his part."

METRIC WEIGHTS AND MEASURES BILL.

On the 1st inst., the House of Commons, by a majority of 35, acquiesced in the second reading of the Weights and Measures Bill, thus confirming the recommendation of the Select Committee of last year in favour of the metric system.

For information respecting the POISONED GRAIN BILL, we refer our readers to a paragraph under the head of "United Society of Chemists and Druggists."

GOSSIP.

Professor Mulder, of Utrecht, has just discovered the metal Thallium in a water from Java; which is said to be used by the natives, and praised for its medicinal virtue.

For some years past the homœopathists have had a Royal patron in the Queen of Spain. Latterly, Her Majesty has entirely broken with the allopathists, and trusted herself entirely to homœopathy.

The *Melbourne Age* states that a manufactory for the production of sulphuric acid and other chemicals will shortly be established on the south bank of the Yarra.

Messrs. J. and J. Colman have recently doubled the productive power of their extensive indigo blue works at Norwich. The manufactory was only erected about twelve months since.

The *Chemical News*, in noticing the proposed amendments of the Medical Act, suggests the following explanation of the movement of the Medical Council:—"The money obtained from the profession for the general registration has been spent, and the future looks unpromising. Under these circumstances, it is no wonder that the Council should seek extended sources of income, and nothing more natural than that they should attempt to plunder Chemists and Druggists."

GAZETTE.

BANKRUPTS.

Adams, George, Fenchurch-street, indigo dealer.
Drosier, Frederick, late of Loughton, chemist.
Gilchrist, John, Birstal, manufacturing chemist.
Meacham, James Edwin, Leicester, chemist.
Poole, Albert, Dawley, Shropshire, druggist.
Satterthwaite, Cornelius, Preston, druggist.
Steinthal, Joseph, Abbey Hey, Gorton, Lancashire, manufacturing chemist.
Walker, George Richard Pratt, Bow-lane, Cheapside, apothecary.
Young, John, Sunderland, chemist.

PARTNERSHIPS DISSOLVED.

Badger and Dymond, Barnsley, Yorkshire, chemists.
Cotton, Hanson, and Co., Huddersfield, manufacturing chemists.
Mathieu, Friquet, and Co., Little James-street, Bedford-row, manufacturers of aerated water.
Tatham, J., and Son, Settle, Yorkshire, chemists.
Taylor, T. and J. T., Bristol, indigo manufacturers.



WHOLESALE INTERFERENCE.

SIR,—Allow me, on behalf of the United Society of Chemists and Druggists, to draw the attention of the trade to the following amendments proposed to be made in the present Medical Act by the Committee

appointed by the General Council of Medical Education, &c.

In Sec. 56.—"It shall not be lawful for any person to keep open shop for the compounding of physicians' and surgeons' prescriptions, unless he be a Licentiate of

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the Apothecaries' Hall of England or Ireland, or shall have received a certificate of competency to compound medicine from either of the above bodies, or from the Pharmaceutical Society, or from some other body duly authorised in England, Ireland, or Scotland by the General Medical Council to institute the necessary examination, and to grant such certificate, and at such rate of fee as the General Medical Council, with the approval of the Privy Council, may sanction; and any person keeping open shop for the compounding of medicine, unless qualified as aforesaid, shall, upon summary conviction for any such offence before any Justice of the peace, pay a sum not exceeding £20. And for the better protection of the public, and to insure the carrying out of the provisions as aforesaid, it is hereby enacted that the Medical Council may appoint from time to time one inspector for England, one for Ireland, and one for Scotland, whose duties shall be to inspect, as often as may be required, all shops where medicines are compounded, and to carry into effect the provisions of this Act in regard to such shops; and that such inspectors be paid such salaries out of the consolidated fund as the General Council, with the approval of the Lords Commissioners of Her Majesty's Treasury, may from time to time determine."

A section also to be added is as follows:—

Sect. 57.—"No patent, quack or other medicine shall be sold unless a sworn certificate of its composition be lodged with the Registrar of the General Council, and a copy thereof be open for inspection in the shop or place in which such medicine is sold; and any person or proprietor of a shop selling any secret remedy shall, on summary conviction, for each such offence be liable to a penalty of £20."

From which it will be seen that it is proposed—

1. To forcibly dispossess upwards of 30,000 Chemists and Druggists of their right to compound medicine.

2. That, with the privileged exception of Licentiates of the Apothecaries' Hall and members of the Pharmaceutical Society, all who compound medicine must in future hold certificates granted by the Medical Council, who unjustly usurp the power of laying down such regulations respecting the education and examination of practitioners in pharmacy as may appear to them fitted to insure adequate knowledge and skill.

3. That candidates for the right to prac-

tise pharmacy shall pay a fee to the General Medical Council, who shall govern the amount.

4. That summary conviction may be secured against a Chemist and Druggist in the honest pursuit of a principal part of his business; the transaction being made a crime, rendering the unfortunate tradesman liable to a penalty of £20.

5. That Chemists and Druggists shall be visited by detective officers, appointed by the Medical Council, as often as they may deem necessary.

6. That as patent medicine is only another term for "proprietary medicine," and inconvenient for those who wish to obtain certain valuable recipes, the owners of such property shall at once forfeit all their interest therein.

By the omission of certain words in the present Act, it will bring Chemists and Druggists entirely under the operation of a body of men who are wishful to take away their prerogative, and who covet their property.

To meet this monstrous invasion of civil rights and trade interests, there is but one course; and the United Society of Chemists and Druggists, on behalf of the trade, have no hesitation in declaring AN IMMEDIATE AND DETERMINED RESISTANCE.

If the hostile movement of the Council is persevered in, the Committee of the Society will call public meetings of the trade and evoke a protest from every town in the kingdom. The public shall be enlightened as to the probable operation of the Act, and shown that if the compounding of medicine, hitherto in the hands of an educated body of men, be taken away from that body, it will in a large proportion of instances be delegated to the surgeon's stable-boy.

If the public need the safeguard of a legally-qualified body of Chemists and Druggists, the qualification shall be governed by those whose practice of compounding and dispensing medicine best fit them to be judges—the Chemists and Druggists themselves—who thoroughly recognise the desirability of a due qualification and an educational status, but will not allow their rights as citizens and traders to be delegated to others, and therefore claim an ACT OF INCORPORATION for themselves—

not for any privileged section, but for the entire trade—based upon a recognition of existing interests as a matter of common justice.

I am, Sir,
Your most obedient servant,
C. F. BUOTT,
Secretary.

P.S.—Will you allow me to state that the offices of the United Society of Chemists and Druggists are now removed to 20, New Ormond-street, W.C. ?

NEW MEDICAL BILL.

SIR,—The *Lancet* of the 13th of June furnishes the outline of a new Medical Bill, as proposed by a Committee of the Medical Council.

That there are many things in the existing Medical Acts which admit of amendment will not be disputed, and it will readily be conceded that those who seek *pro bono publico* to amend them deserve well of their country; but when a few individuals suggest a course of legislation affecting the character and property of some 30,000 tradesmen with whom they have no sympathy, and keep their plan a profound secret until it is ripe for publicity, they may be assured such an act of effrontery will arouse the indignation of the very men whom they profess to serve but disdain to consult.

Whether the organic change proposed for the existing body of Chemists and Druggists would result in good or not, needs no discussion now; but permit me to inquire who are its promoters, and what is the end contemplated?

The Pharmaceutical Society once attempted the very thing now proposed, but signally failed; and the commonest prudence suggests the impolicy of any attempt on their part at its resuscitation. Besides, they have not only abdicated their once assumed guardianship of the trade, and become an exclusive and self-aggrandizing body, but they have sought for special privileges and invidious distinctions, and indorsed slanderous insinuations against their fellow-Chemists: in fine, they have succeeded in raising an insurmountable barrier between themselves and the general body of the trade. And yet something must be done. Another body, legitimately and truly representing the trade, has exhibited a vitality and a power which may narrow the sphere of both Pharmaceutical and Medical influence. The two Councils are allied to war upon the trade; the Pharma-

ceutical has been worsted, so let the Medical advance to action!

Very few Chemists have any pretensions to be Doctors, or desire to connect themselves with the Apothecaries; but not a few dislike the Pharmaceutical Society, and would resist every attempt to force them by Act of Parliament to become members, whilst to many the cost of membership would be oppressive. There are also hundreds who fulfil all the requirements of their trade with great practical skill, but would shrink from a semi-medical examination; and all non-pharmaceutists would consider the pecuniary provisions of such a bill wholesale extortion.

The association of the Apothecaries with the Pharmaceutists is obviously intended to cover the real object of the plan, which is to compel every dispensing Chemist to become a member of the Pharmaceutical Society. Whoever will not or cannot must forfeit his business, however valuable, and, as a ruined man, may seek a living where he can.

If the Chemists and Druggists of the United Kingdom accept the Bill as indicated by the Medical Council, their choice will be between submission and spoliation; and if they accept any Bill which does not originate with themselves, and professedly and really embody their own wants and wishes, they will deserve the chains so presumptuously and cunningly devised for them by the Medical Council.

I am, Sir,
Your obedient servant,
VIGIL.

TRADE GRIEVANCES.

21, High Ousegate, York,
July 10, 1863.

SIR,—As you seem always to have a very friendly feeling towards the United Society of Chemists and Druggists, will you permit me to say, through your columns, that I think it is an Association well deserving the countenance and the active support of every member of the trade? Every thinking Chemist must feel that there is a great need for doing something to advance the intellectual and scientific qualifications, and generally to improve the status of the important body to which he belongs. The Pharmaceutical Society was to have done much, but candour compels me to say I believe it has done very little either directly or indirectly towards this momentous object: the reasons for its want of greater success is obvious to all who well consider the matter. Now, the United Society sets forth in its prospectus some very necessary objects, and which are well worthy striving

to attain; and among the other good things promised, I am glad to see a desire to induce "Early and Sunday Closing." As to the first item, twenty-five years of active experience in the trade, and in different parts of the country, fully convinces me that the present system of late hours is quite unnecessary, and that the amount of Sunday trading carried on by many *respectable* Chemists is unfair to other trades, and degrading to themselves. Some of the principal Chemists in this city do not close until ten, some nearly eleven o'clock at night: and as to Sunday business, I know that several of them do quite a large trade on the Sabbath in groceries, tobacco, and cigars, *all the grocers' and tobaccoists' being closed.*

One of your correspondents dwelt a great deal upon the neglect of masters in not educating their apprentices. The Society seeks to improve the status of the master, and when this is done you will not have so many ignorant apprentices. The great evil in this matter is the custom with some Chemists of taking uneducated youths as apprentices without any premium: they make them very useful in washing bottles, grinding paints, powdering, packing black-lead, and other delicate articles; and when they are out of their time, as these *Chemists' devils* (they stand in much the position of the printers' devils) know nothing of their trade, and have neither dress nor appearance to recommend them. There are only two doors open for them,—either to turn quack doctor, or to open a small drug-store, the windows of which are adorned with one or two badly-printed lists of cheap drugs; together with a few packets of Glenfield starch, a score or so of cheap pipes, several boxes of lucifer matches, half-a-dozen pewter syringes, and two or three ounces of very dirty camomile flowers and senna leaves. The country abounds with this class of individuals, who can scarcely scrape a livelihood together, doing themselves no good, and only bring the trade into disrepute. This is the cause of the ruinous and ridiculously low prices now charged in so many localities, which leads to adulteration and all sorts of rascality; and the only hope I see of any remedy for this class of things is in the respectable portion of the trade helping with all their might to strengthen the hands of the United Society of Chemists. Let every Chemist who is not already a member of this Society enrol himself at once; and let those who are, seek to get others to join. The Medical Council and the Pharmaceutical Society are both ready to put any burden on the Chemists and Druggists generally; and there is even now a talk of an attempt to get a Bill passed obliging every Chemist and

Druggist now in business to go through an examination, or to be liable to a fine of £20 for every time he sells drugs. Then, again, there is a constant desire to prevent the Chemist and Druggist from prescribing in simple cases. The absurdity of this I shall endeavour to show at a future time. But I do say that if the present threatened encroachment upon the interests of the trade is not enough to rouse our brethren from their supineness and lethargy to join this Society, which is their only bulwark (and thus to show a determined front to all opposition, and a combined determination to work out the improvements needed), they deserve to be the slaves others desire to make of them.

I am, Sir, your obedient servant,
WM. MACHAYLAND.

THE ACT OF INCORPORATION.

July 6, 1863.

SIR,—Permit me, through the columns of your journal, to express the gratification I felt on reading the Second Annual Report of the United Society of Chemists and Druggists. Like many others, I think I may venture to say, I never believed that Society would have existed so long; neither did I appreciate the motives of those I considered upstarts in taking such a position on themselves; but the events of the past year, and the shadow of that to come, cause me to reflect, whether in condemning others I have been just to myself? Taking the objects of the Society as at first proposed, there appeared nothing of any particular interest to call forth even the small sum of five shillings per annum; but now, I presume, the real object of this Society is revealed. The proposed Act to incorporate the entire trade is deserving of our greatest consideration and support. It is the very thing required to settle the competency of the Chemist to retail poisons, and to make him a registered member of the medical body. It would put an end to legislative censure, confer a great boon on the public, and be a proper protection for the Druggist. Whilst confessing myself jealous for the welfare of the Pharmaceutical Society, I cannot but admit the argument advanced in the Report is open and candid, and meets the case in a considerate and truthful manner. It would certainly be desirable that every future Chemist should come up to the standard of the Pharmaceutical Society; but if, instead of progressing, that Society is losing four per cent. per annum of its members, even its most enthusiastic advocates must admit its utter impossibility to supply the demand for dispensers. If it is true that the managers of the Pharma-

ceutical Society are in league with the Medical Council to restrict the keeping of shops and dispensing medicines to themselves (*vide Lancet*, June 13th), the United Society has then become of the greatest importance to the very existence of the trade. Was there ever so arbitrary a suggestion as that proposed to destroy the livings of the thousands now in business?

The Act of Incorporation as supplied by the United Society stands out in favourable contrast with that of the Medical Council; and if the Pharmaceutical Society is true to its mission, it will accept in good spirit the propositions of a Society it has hitherto regarded as antagonistic to itself, and opposed to education.

I am, &c., A CHEMIST.



"Curious" asks us to interpret the words "*Brugmansia suaveolens* album." We presume that they have been written by some unlearned gardener for *Brugmansia suaveolens*, *alba*, the name of a beautiful hothouse plant belonging to the natural order *Atropaceæ*. The genus *Brugmansia* was so named by Persoon in honour of S. J. Brugmans, the great German botanist. The specific name *suaveolens* is simply the Latin word for "sweet-smelling," and *alba*, the adjective "white," added to distinguish the variety, which may therefore be termed "the white sweet-smelling *Brugmansia*." We may here mention that the genus *Brugmansia* is now generally referred to *Datura*.

Hydrochloric Acid.—(L.P.D.) This compound is a colourless gas. The liquid you refer to is a solution of hydrochloric acid; it is prepared by gently heating in a retort a mixture of common salt and sulphuric acid, diluted with about two-thirds its bulk of water, and condensing the evolved gas in a vessel or series of vessels of cold distilled water.

Depilatories containing Orpiment.—"Scruple." There is considerable danger attending the use of these cosmetics. Orpiment is a sulphide of arsenic, and is of course highly poisonous. Death has been caused by its external application.

The Symbol for Water.—(H.M.P.) According to the unitary system of notation which is adopted in the work you refer to, the atomic weight of oxygen is 16, consequently water is represented by H_2O and has the atomic weight of 18. According to the older system, oxygen=8, and water expressed by the symbol $HO=9$.

Chemical Terms.—"An Apprentice" is advised to purchase some good manual of Chemistry. That by Mr. Fownes, reviewed in our March number, is a very comprehensive work; its price is 12s. 6d. We know of no cheaper publication in which all chemical terms are plainly and fully explained.

T. H. Moffat.—We will endeavour to obtain the information you require. We know that the process adopted by the principal makers is kept a profound secret.

A. M. is referred to the note appended to our Reviews, to our leading article, and to Mr. Buott's letter.

C. W.—We should not recommend you to make any exception in favour of the Taxidermist. We will obtain advice upon this subject and communicate with you again.

J. H. G.—We are much obliged to you for your note. You will see that the proposed amendments of the Medical Act have received our attention.

NOTES RELATING TO THE MANAGEMENT OF OUR JOURNAL.

Correspondence.—All communications should be addressed to the Editor, at 24, Bow Lane, E.C.; those intended for publication should be accompanied by the real names and addresses of the writers.

Subscription.—The subscription to our Journal is 5s. per annum, payable in advance. Should a receipt be required, a stamped envelope must be sent with the amount of subscription. A specimen number may be had upon application, price 6d.

Post-Office Orders.—Post-Office Orders to be made payable at the General Post Office to the Publisher, JAMES FIRTH, who is alone authorised to receive accounts.

Advertisers are particularly requested to write their names and addresses very distinctly, to prevent errors and disappointment.

TRADE REPORT.

THE business transacted in Chemicals during the month has been of a trifling character; prices in many instances are again lower. Small sales only have been made in Tartaric Acid at 1s. 6d. Citric Acid has declined to 1s. 5½d., at which price several tons have been disposed of. Alum has fallen to £6 10s., several hundred tons having been sold at that price. Cream Tartar is dull, and the price is now 112s. 6d. for the best. A few sales have been made in Sal Ammoniac at 35s. 6d. to 37s. 6d., according to quality. Sales are more freely made in Sulphate of Copper at 31s. 6d. to 32s., the market closing firm. Sulphate of Ammonia is dull at 14s. to 15s. Soda Crystals lower, and the price nominal at 95s. ex ship. Soda Ash is quiet, at 2d. ex ship. Frussiate of Potass is dull at 11¾d. to 12d. Oxalic Acid is quiet at 8d. to 8½d. Chlorate of Potass is dull and lower; small sales at 11d. to 11½d. Bichromate of Potass remains dull at 8¾d. to 9d. A few sales made in Sal Acetos at 10½d. to 10¾d. Bleaching Powder is dull at 9s. 6d. to 10s. Small sales made in Flour of Brimstone at 11s. to 12s., according to quality. Roll is quiet at 9s. Pot and Pearl Ashes continue dull at 32s. 6d. Linseed Oil is quieter at 44s. 9d., and last six months 42s. 9d. Rape is dull and lower; last sales made in refined at 45s. 6d., and brown 44s. 6d. Turpentine is better, last transactions being at 100s. for American, and 87s. for French, with sellers forward at 80s. Extensive sales have been made in Petroleum: the price of Canada is now £19, and refined 2s. 3d. spot, and 2s. 5d. to 2s. 5½d. for late delivery. Resin is firm at late prices. Refined Salt-petre is quiet at 39s. 6d. to 40s. 6d. cash, f. o. b.

There has been more doing in the Drug market this month. Large parcels of China Camphor have been sold at from £6 10s. down to £5 7s. 6d.: the market is now firmer, closing buyers at £5 15s. to £6. Refined has declined to 1s. 8d. Castor Oil has sold freely at ¾d. to ¾d. decline; middling and good pale 5½d. to 6d., and yellow and straw 4½d. to 5d. Turkey Opium is rather cheaper; fine sold at 17s. to 17s. 6d. East India Gum Arabic is again dearer. Balsam Capivi sold at 1s. 4d. to 1s. 5d., being rather firmer. Cubebs are held for 110s. to 112s. 6d. Jamaica Bees Wax is lower, large parcels selling at £8 5s. to £8 17s. 6d. Malabar Cardamoms are easier; middling quality is worth 5s. 4d. to 5s. 6d. Shellac is 5s. to 10s. cheaper, owing to large parcels offered. Ipecacuanha is quiet. Some very old Jalap was bought in at 9d. Seneka Root has declined to 3s. 3d. to 3s. 4d. Crown and Grey Bark is about 2d. to 3d. dearer. Oil Aniseed is quiet at 5s. 8d. Small sales in Cassia at 7s., and Citronelle 5d. to 5½d. Barbadoes Tamarinds are easier. Rhubarb is without change; some parcels of flat sold at 2s. 5d. to 2s. 7d., and round 2s. 4d. to 2s. 5d. Aloes are without change; some fine Cape sold at 45s. to 45s. 6d. China Musk full up.

PRICE CURRENT.

These quotations are the latest for ACTUAL SALES in Mincing Lane. It will be necessary for our retail subscribers to bear in mind that they cannot, as a rule, purchase at the prices quoted, inasmuch as these are the CASH PRICES IN BULK. They will, however, be able to form a tolerably correct idea of what they ought to pay.

	1863.				1862.					1863.				1862.				
	s.	d.	s.	d.	s.	d.	s.	d.		s.	d.	s.	d.	s.	d.	s.	d.	
ARGOL, Cape, pr ct.	85	0	100	0	90	0	100	0	BRIMSTONE,	s.	d.	s.	d.	s.	d.	s.	d.	
French	40	0	.60	0	30	0	.60	0	rough.....per ton	127	6	130	0	145	0	0	0	
Oporto, red	45	0	.47	0	45	0	.48	0	roll.....	180	0	190	0	200	0	0	0	
Sicily	70	0	.76	0	65	0	.80	0	four.....	220	0	230	0	300	0	0	0	
Naples, white.....	65	0	.80	0	65	0	.80	0	CHEMICALS,									
Florence, white.....	90	0	.97	6	90	0	100	0	Acid—Acetic, pr lb	0	3½	0	0	0	4	0	4	
red	80	0	.85	0	85	0	.87	6	Citric	1	5½	0	0	1	8½	1	9	
Bologna, white.....	110	0	115	0	115	0	120	0	Nitric	0	5	0	0	0	4½	0	5	
ARROWROOT,									Oxalic	0	8	0	0	0	9	0	0	
duty 4½ pr cwt.	1	10	..	2	0	11	..	1	4	Sulphuric	0	0½	0	0	0	0½	0	0
Bermuda...per lb.	0	5½	..	0	8½	0	3	..	0	Tartaric crystal	1	6	..	0	1	8	..	0
St. Vincent.....	0	5½	..	0	8½	0	3	..	0	powdered.	1	6½	..	1	7	1	8½	1
Jamaica.....	0	4½	..	0	5½	0	2½	0	2½	Alum.....per ton	130	0	0	0	125	0	130	0
Other West India.	0	4½	..	0	5½	0	2½	0	3	powder	145	0	160	0	145	0	0	0
Brazil.....	0	3	..	0	4	0	1½	0	2	Ammonia, Crb. lb.	0	5	..	0	0	5½	0	6
East India.....	0	3	..	0	4½	0	1½	0	2½	Sulphate pr ton	280	0	300	0	270	0	290	0
Natal	0	5½	..	0	10	0	2½	0	7½	Antimony, ore.....	200	0	230	0	260	0	280	0
Sierra Leone.....	0	4½	..	0	5½	0	2½	0	3	crude, pr cwt	22	0	.23	0	24	0	.28	0
ASHES....pr cwt.									regulus	41	0	..	0	44	0	.46	0	
Pot. Canada, 1st sort	32	..	0	0	36	6	..	0	0	French star.....	42	0	..	0	45	0	..	0
Pearl, do, 1st sort.	32	6	..	0	37	0	..	.37	6	Arsenic, lump....	16	0	..	0	17	0	.18	6

PRICE CURRENT—continued.

1863.				1862.				1863.				1862.			
CHEMICALS.								DRUGS.							
s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Arsenic powder ..	6	0	7	0	8	3	10	0	0	5	0	8	6	9	0
Bleaching Powder.	9	6	10	0	9	0	9	6	0	3	5	6	0	8	6
Borax, E. I. refined	53	0	0	0	52	6	0	0	0	4	3	4	7	4	4
British.....	56	0	0	0	64	6	65	0	0	20	0	45	0	12	0
Calomel.....per lb.	2	9	0	0	2	10	0	0	0	5	0	0	0	7	0
Camphor, refined.	1	6	1	8	2	8	3	2	0	4	0	0	5	0	7
Copras, grn. pr. tu.	57	6	60	0	65	0	0	0	0	4	0	0	4	0	6
Crtiv. Sublimed, lb.	1	11	0	0	1	11	2	0	0	4	0	0	4	0	6
Green Emuld. pr. lb.	0	0	0	0	0	9	0	11	0	1	2	0	26	0	0
Brunswk, cwt.	0	0	0	0	14	0	42	0	0	12	0	15	0	10	0
Iodine, dry, pr. oz.	0	3	1	0	0	5	0	6	0	11	0	13	0	11	0
Magnesia Crbn. ct.	42	6	45	0	42	6	45	0	0	5	0	7	3	4	9
Calcined, lb.,,	1	2	1	8	1	6	0	0	0	8	1	0	0	7	1
Minium red, pr. ct.	22	0	22	6	21	6	23	0	0	25	0	55	0	20	0
orange.....	32	0	33	0	33	0	34	0	0	112	6	0	0	125	6
Ptsh. Bichrom. lb.	0	8	0	9	0	8	0	8	0	115	0	0	0	127	6
Chlorate.....	0	11	0	0	0	11	0	11	0	100	0	105	0	112	6
Hydriodate oz.	0	4	0	5	0	5	0	6	0	97	6	102	6	105	0
Prussiate.....	0	11	1	0	1	0	1	1	0	40	0	55	0	50	0
red.....	1	11	0	0	2	2	0	0	0	105	0	110	0	130	0
Precipit. red pr. lb.	2	9	0	0	2	9	2	10	0	26	0	35	0	48	0
white.....	2	9	2	10	2	10	0	0	0	90	0	300	0	200	0
Prussian Blue.....	1	0	1	10	1	6	1	10	0	25	0	260	0	130	0
Rose Pink.....pr ct.	29	0	0	0	29	0	30	0	0	18	0	30	0	20	0
Sal-Acetos.....pr lb.	0	10	1	0	0	11	0	11	0	47	0	50	0	62	0
Ammoniac, ct.	35	0	37	0	36	0	38	0	0	50	0	50	0	60	0
British.....	8	0	0	0	8	8	8	6	0	46	0	50	0	60	0
Fpsom.....	8	6	0	6	5	6	0	0	0	24	0	36	0	24	0
Glauber.....	0	2	0	0	0	2	0	0	0	20	0	65	0	28	0
Soda, Ash, pr deg.	12	6	13	0	12	0	13	0	0	6	3	6	7	4	7
Bicarbonate, ct.	95	0	0	0	90	0	92	6	0	10	0	13	0	10	0
Crystals per ton.	37	0	0	0	37	0	40	0	0	9	0	3	0	3	0
Sgr. Lead, white, ct.	25	0	0	0	28	0	0	0	0	8	0	9	0	9	0
brown.....	0	6	0	0	7	9	8	0	0	3	0	3	0	3	0
Silphate, Quinine oz.	6	3	0	0	7	8	7	6	0	8	0	13	0	10	0
British in btl.	6	3	0	0	7	8	7	6	0	8	0	13	0	10	0
Foreign.....	14	6	15	0	14	6	15	0	0	8	0	16	0	8	0
Sulphat. Zinc, cwt.	0	10	4	1	0	1	3	1	5	8	0	16	0	10	0
Verdigris.....lb.	2	8	3	0	3	0	3	4	0	0	0	0	0	0	0
Vermilion, English	2	8	3	0	3	0	3	4	0	0	0	0	0	0	0
China.....	2	2	2	3	2	6	2	8	0	80	0	83	0	85	0
Vtrl. blue or Romn.	30	0	31	0	33	0	35	0	0	3	0	3	6	2	0
per cwt.....	2	10	4	3	2	8	4	2	0	19	0	27	0	21	0
COCHINEAL, pr. lb.	1	8	3	6	1	5	3	6	0	10	0	12	6	8	0
Honduras, black...	2	9	3	0	2	6	2	11	0	17	0	18	0	15	0
silver.....	2	9	3	0	2	6	2	11	0	26	0	28	0	27	0
Mexican, black...	2	9	3	0	2	6	2	11	0	26	0	28	0	27	0
silver.....	2	9	3	0	2	6	2	11	0	26	0	28	0	27	0
Lima.....	2	11	3	4	2	7	2	9	0	27	0	28	0	27	0
Teneriffe, black...	2	9	3	0	2	6	2	11	0	26	0	28	0	27	0
silver.....	2	9	3	0	2	6	2	11	0	26	0	28	0	27	0
DRUGS.															
Aloes, Hepatic, ct.	100	0	180	0	135	0	200	0	0	100	0	200	0	70	0
Socotrine.....	120	0	280	0	160	0	480	0	0	9	0	1	3	0	4
Cape, good.....	43	0	47	0	38	0	42	0	0	1	8	4	6	1	2
inferior.....	26	0	42	0	21	0	36	0	0	1	8	4	6	1	2
Barbadoes.....	50	0	360	0	60	0	420	0	0	5	6	0	0	3	6
Ambergris, gray.	15	0	20	0	44	0	52	0	0	12	6	13	0	11	6
per oz.....	20	0	35	0	20	0	35	0	0	32	0	36	0	43	0
Angelica Root, ct.	105	0	110	0	70	0	80	0	0	130	0	140	0	160	0
Aniseed, Chinastr.	19	0	38	0	26	0	40	0	0	10	0	1	4	0	9
German, &c. 19	0	38	0	26	0	40	0	0	0	9	0	1	4	0	9
Balsam Canada, lb	1	0	1	2	1	4	0	0	0	0	8	1	3	0	10
Capivi.....	1	4	1	5	1	7	1	8	0	1	2	2	2	1	5
Peru.....	4	9	4	10	4	6	4	8	0	0	0	0	0	11	0
Tolu.....	3	6	0	0	4	0	4	3	0	27	0	28	0	27	0
Peru Cascarilla ct.	20	0	44	0	25	0	44	0	0	27	0	28	0	27	0
Barb. crown & grey	0	10	0	2	1	2	2	4	0	19	0	23	0	14	0
per lb.....	3	6	3	8	4	0	4	2	0	3	0	3	4	4	0
Callisaya flat...	3	0	0	4	3	9	4	0	0	0	2	0	0	0	2
quill.....	1	2	1	8	1	3	2	6	0	0	2	0	0	0	2
Carthageana...	1	7	2	6	1	10	2	9	0	0	4	1	4	0	2
Pitayo.....	2	6	8	0	2	6	8	0	0	0	3	0	8	0	3
Red.....	22	0	40	0	22	0	40	0	0	3	6	3	9	2	3
Bay Berries, pr ct.	0	2	1	6	0	2	1	6	0	0	1	0	1	1	1
Bucca Leaves, lb.	25	0	65	0	30	0	60	0	0	12	0	13	6	10	6
Camomile Flowers	110	0	120	0	310	0	0	0	0	17	0	28	0	15	0
Camphor, China...	19	0	38	0	19	0	40	0	0	19	0	24	0	18	0
Canela Alba.....	2	2	2	4	3	0	3	1	0	24	0	25	0	24	0
Cantharides, pr lb.	5	9	6	0	9	6	10	0	0	20	0	40	0	20	0
Cardamoms. Albar.	5	9	6	0	9	6	10	0	0	20	0	40	0	20	0
good.....	5	9	6	0	9	6	10	0	0	20	0	40	0	20	0
Cardamoms, inferior	5	0	5	6	8	6	9	0	0	5	0	5	6	8	6
Madras.....	4	3	4	7	4	4	4	7	0	20	0	45	0	12	0
Ceylon.....	20	0	45	0	12	0	25	0	0	5	0	0	0	7	0
Cassia, Fistula, lb	0	5	0	0	0	7	0	0	0	4	0	0	0	6	0
Castor Oil, Ist pale, lb	0	4	0	0	0	4	0	0	0	11	0	13	0	11	0
second.....	0	4	0	0	0	4	0	0	0	5	0	7	3	4	9
inf. & dark	0	4	0	0	0	4	0	0	0	8	1	0	0	7	1
Bombay, in cks.	4	0	0	0	4	0	0	0	0	25	0	55	0	20	0
Castorium.....	1	2	0	26	0	1	0	26	0	112	6	0	0	125	6
China Root, pr ct.	12	0	15	0	10	0	15	0	0	115	0	0	0	127	6
Cocculus Indicus ..	11	0	13	0	11	0	13	0	0	100	0	105	0	112	6
Cod-liver Oil, gal..	5	0	7	3	4	9	6	0	0	97	6	102	6	105	0
Cleynth. apple, lb.	0	8	1	0	0	8	1	0	0	40	0	55	0	50	0
Colombo R. pr. ct.	25	0	55	0	20	0	52	0	0	105	0	105	0	112	6
Cream Tartar, pr. ct.	112	6	0	0	125	6	127	6	0	115	0	0	0	127	6
French.....	115	0	0	0	127	6	130	0	0	100	0	105	0	112	6
Venetian.....	100	0	105	0	112	6	115	0	0	97	6	102	6	105	0
grey.....	100	0	105	0	112	6	115	0	0	40	0	55	0	50	0
brown.....	97	6	102	6	105	0	115	0	0	105	0	110	0	130	0
Croton Seed.....	40	0	55	0	40	0	55	0	0	26	0	35	0	48	0
Cubebs.....	105	0	110	0	130	0	137	6	0	90	0	300	0	200	0
Cumin Seed.....	26	0	35	0	48	0	55	0	0	25	0	260	0	130	0
Dragon's bld. reed.	200	0	300	0	200	0	300	0	0	18	0	30	0	20	0
lump.....	95	0	260	0	130	0	200	0	0	47	0	50	0	62	0

PRICE CURRENT—continued.

DRUGS	1863.				1862.				OILS.	1863.				1862.			
	s.	d.	s.	d.	s.	d.	s.	d.		s.	d.	s.	d.	s.	d.		
Vanilla, Mexican lb	23	0	.30	0	25	0	.55	0	Clove	0	2	.0	4	0	4	0	0
Wormseed, pr cwt.	2	0	.0	0	2	0	.0	0	Croton	0	0	.0	0	0	0	0	4
GUM..... per cwt.									Juniper ... per lb.	1	10	.3	0	1	10	.3	0
Ammoniac, drop.	100	0	120	0	90	0	120	0	Lavender	2	6	.4	6	2	6	.5	0
lump	15	0	.65	0	15	0	.70	0	Lemon	4	0	.9	0	4	0	.9	0
Animi, fine pale ..	220	0	250	0	290	0	320	0	Lemongrass, pr oz	0	61	.0	7	0	51	.0	61
bold amber. 190	0	210	0	220	0	270	0	Mace, ex	0	13	.0	2	0	13	.0	2	
medium..... 160	0	180	0	160	0	180	0	Neroli	5	0	.7	0	6	0	.9	0	
small & dark ..	100	0	155	0	120	0	160	0	Nutmeg	0	1	.0	2	0	1	.0	2
ordinary dark ..	50	0	.95	0	40	0	.90	0	Orange per lb.	5	0	.6	6	5	0	.7	0
Arab. E. l.f. pale pkd	56	0	.65	0	50	0	.60	0	Otto roses, per oz	14	0	.22	0	15	0	.24	0
unsord, good to f	38	0	.54	0	32	0	.42	0	Peppermint, pr lb.								
red and mixed ..	20	0	.30	0	28	0	.30	0	American	8	6	.15	6	7	0	.12	3
siftings	15	0	.30	0	18	0	.23	0	English	33	0	.36	0	32	0	.34	0
Turkey, pkd. gdt. f.	115	0	180	0	110	0	160	0	Rhodium .. per oz.	3	6	.5	6	3	9	.6	0
second & infr. 50	0	110	0	48	0	105	0	Rosemary .. per lb.	1	8	.3	0	1	10	.3	0	
in sorts	32	0	.50	0	30	0	.42	0	Sassafras	3	0	.4	0	3	0	.4	0
Gedda	24	0	.27	0	28	0	.29	0	Spearmin.	5	0	.8	6	5	0	.10	0
Barbary, white ..	42	0	.50	0	34	0	.40	0	Spice	1	3	.1	6	1	3	.1	6
brown	33	0	.34	0	26	0	.30	0	Thyme	1	9	.2	3	1	9	.2	3
Australian	26	0	.28	0	24	0	.25	0	PITCH, Brtsh. pr cwt.	12	0	.0	0	8	0	.0	0
Assafet. fr. to gd.	30	0	112	6	40	0	115	0	Swedish	0	0	.0	0	10	6	.11	0
Benjamin, 1st. qual.	850	0	630	0	400	0	560	0	SALT PETRE, pr cwt.								
2nd qual	280	0	300	0	260	0	330	0	Engl, 6 p.c. or under	37	0	.87	6	42	6	.43	0
3rd	50	0	240	0	60	0	180	0	over 6 per cent.	36	0	.36	6	39	0	.42	0
Copal, Angola red.	90	0	.95	0	100	0	120	0	Madras	35	0	.37	0	37	6	.40	6
pale	85	0	100	0	95	0	105	0	Bombay	34	0	.36	6	35	6	.36	6
Benguela	75	0	.90	0	105	0	130	0	British-refined. .	39	6	.40	6	44	0	.45	6
Sierra Leone b	0	4	.1	6	0	9	.1	8	Nitrate of Soda ..	15	6	.16	0	14	0	.14	6
Manilla	22	0	.44	6	20	0	.48	0	SEED, Canary, pr gr.	38	0	.50	0	34	0	.50	0
Dammar ple. pr ct	36	0	.46	0	44	0	.48	0	Caraway, Eng. p.c.	0	0	.0	0	0	0	.0	0
Galbanum	100	0	120	0	100	0	120	0	German, &c	0	0	.0	0	0	0	.0	0
Gmbege, pkd. pipe	160	0	190	0	140	0	180	0	Coriander	10	0	.12	0	0	0	.0	0
in sorts	90	0	150	0	80	0	110	0	East India	0	0	.0	0	0	0	.0	0
Guaiacum ..pr. lb.	0	6	.1	5	0	7	.1	6	Hemp	0	0	.0	0	46	0	.50	0
Kino	220	0	300	0	200	0	230	0	Linsced, Black Sea	65	0	.66	0	60	0	.61	0
per cwt.	35	0	.42	0	24	0	.27	6	Calcutta	67	0	.63	0	62	0	.63	0
Kowrie	5	0	.5	3	6	0	.6	6	Bombay	70	0	.73	0	67	0	.73	0
Mystic, pkd. pr lb.	5	0	.5	3	6	0	.6	6	Egyptian	62	0	.63	0	58	0	.59	0
Myrrh gd. & fl pr ct	150	0	170	0	160	0	180	0	Mustard, brn, p. bhl	7	0	.12	0	0	0	.0	0
in sorts	70	0	130	0	70	0	130	0	white	7	0	.8	6	0	0	.0	0
Olibanum, pl. drop	73	0	.80	0	56	0	.70	0	Poppy, E.I. per gr.	60	0	.61	0	59	0	.61	0
amb & yel.	48	0	.65	0	44	0	.55	0	Rape, English	0	0	.0	0	0	0	.0	0
mixd. & dk.	16	0	.35	0	12	0	.35	0	Danube	66	0	.0	0	0	0	.70	0
Senegal	48	0	.50	0	38	0	.40	0	Calcutta, fine ..	61	0	.62	0	67	0	.0	0
Sandrac	82	0	107	6	80	0	105	0	Bombay	69	0	.70	0	73	0	.74	0
Tragacanth, leaf.	180	0	300	0	180	0	320	0	Teel, Sesme or Gngy	63	0	.68	0	66	0	.72	0
in sorts	100	0	130	0	100	0	130	0	Cotton	160	0	.0	0	165	0	167	6
OILS..... per tun.	d.	s.	d.	s.	d.	s.	d.	s.	Gnd. Nut Kneels, tn	340	0	350	0	350	0	360	0
Seal	42	0	.48	0	35	0	.45	0	SOAP, Lnd. yel. pr ct.	22	0	.36	0	21	0	.36	0
Sperm, body.....	80	0	.81	0	85	0	.0	0	mottled	36	0	.38	0	34	0	.36	0
Cod	53	10	.54	0	41	0	.42	0	curd	50	0	.0	0	50	0	.0	0
Whale, Greenland.	0	0	.0	0	0	0	.0	0	Castile	40	0	.41	0	39	0	.40	0
Sth Sea pale ..	45	10	.46	0	36	0	.38	0	Marseilles	40	0	.42	0	40	0	.41	6
E. I. Fish	38	10	.0	0	32	10	.33	0	SOY, China, per gal.	2	1	.2	3	2	6	.2	8
Olive, Galipoli, ton.	59	0	.60	0	56	10	.57	0	Japan	0	10	.1	0	0	8	.0	10
Florence, g-chst.	1	0	.1	2	0	0	.22	0	SPONGE, Turk f. pkd	20	0	.24	0	20	0	.24	0
Cocant. Coch. tn	47	0	.48	0	54	6	.55	0	fair to good ..	0	8	.18	0	8	0	.18	0
Ceylon	44	0	.45	0	52	6	.53	0	ordinary	3	0	.6	0	3	0	.6	0
Sydney	38	0	.43	6	46	0	.51	0	Bahama	0	3	.1	3	0	4	.1	3
Ground Nut & Gin.									TURPENTINE,								
Bombay	42	0	.42	6	44	10	.45	0	Rough .. per cwt.	0	0	.0	0	0	0	.0	0
Madras	44	0	.0	0	45	10	.46	0	Spirits, French ..	85	0	.87	0	0	0	.0	0
Palm, fine	36	0	.36	3	42	0	.0	0	American, in cks	100	0	.0	0	110	0	.0	0
Linsced	44	9	.0	0	39	6	.40	0	WAX, Bees, English	170	0	175	0	172	6	175	0
Rapese. Engl. pale	47	0	.0	0	51	0	.0	0	German	162	6	180	0	175	0	180	0
brown	45	0	.0	0	45	6	.0	0	American	165	0	175	0	160	0	170	0
Foreign do	46	0	.0	0	52	0	.0	0	white fine	0	0	.0	0	0	0	.0	0
brown	44	6	.45	0	48	6	.49	0	Jamaica	165	0	175	0	175	0	180	0
Lard	34	0	.36	0	50	0	.0	0	Gambia	170	0	175	0	160	0	170	0
Tallow	39	0	.40	0	40	0	.41	0	Mogadore	130	0	155	0	120	0	160	0
Rock Crude	15	0	.20	0	9	0	.12	0	East India	140	0	180	0	140	0	170	0
Orts, Essential—	s.	d.	s.	d.	s.	d.	s.	d.	ditto, bleached ..	170	0	220	0	165	0	200	0
Almond essen. lb.	19	0	.0	0	19	0	.0	0	vegetable, Japan.	64	0	.75	0	58	0	.78	0
expressed	0	0	.0	0	1	0	.0	0	WOOD, live, per ton.								
Anised	5	8	.0	0	5	9	.0	0	Lucie, Cuba	145	0	155	0	145	0	150	0
Bay	110	0	120	0	110	0	120	0	Jamaica	120	0	140	0	100	0	105	0
Bergamott pr lb.	0	24	.0	24	0	11	.0	3	Savanna	115	0	.0	6	100	0	.0	6
Cajupate, bond. oz	4	3	.5	6	4	3	.6	0	Zante	0	0	.0	0	0	0	.0	0
Caraway	7	9	.7	10	8	9	.0	0	Logwood, Campechy	180	0	190	0	180	0	200	0
Cassia	1	6	.3	6	1	4	.4	0	Honduras	125	0	130	0	140	0	.0	0
Cinnamon (in) lb. oz	0	2	.0	4	0	1	.4	0	St. Domingo. ..	95	0	100	0	110	0	.0	0
Cinnamon Leaf...	0	2	.0	4	0	1	.4	0	Jamaica	90	0	.0	0	95	0	.0	0
Citronel	0	5	.0	54	0	41	.0	5									



The abridged Specifications of Patents given below are prepared specially for this Journal by Mr. R. A. BROOMAN, from official copies supplied by the Government, and are therefore the property of the Proprietor of this Journal. Other papers are requested not to reproduce them without acknowledgment:—

3011. W. CLARK. *Improvements in the means of utilizing refuse and azoted matters of commerce.* (A communication.) Dated November 7, 1862.

The inventor claims—1, the employment of alkaline sulphurets, and especially those of sodium and potassium, for dissolving the azoted matters, either in the open air or under pressure, and also the separation by means of this agent of wool from cotton or other thread in certain cases. 2, he claims the commercial application of the solubility of the said azoted matters in sulphuric acid, either in the open air or under pressure, and the employment of the said acid while saturated with azoted matters for the production of acid phosphate of lime. 3, he claims the saturation of the said acid phosphate of lime with animalized alkaline sulphurets, and also the combination of these reactions in order to produce manure containing azote in various forms, alkaline phosphates, and hydrated phosphate of lime. 4, he claims the direct application of animalized superphosphate obtained by the action of the acid, saturated with azoted matters on the phosphates, in the manner specified.—*Patent completed.*

3123. J. W. HJERPE, W. HOLMGREN, and A. V. SUNSTEDT. *An improved composition or preparation of materials applicable for igniting matches.* Dated November 20, 1862.

This invention has for its object—1, to dispense with the use of phosphorus in the manufacture of matches, and also to prepare and apply the igniting ingredients in such a manner that matches cannot become accidentally ignited, and, in fact, cannot be ignited at all, except by being rubbed on a roughened surface especially prepared for the purpose. The improved composition consists mainly of chlorate of potash, bichromate of potash, to which may be added

a metallic oxide, such as the oxides of iron, manganese, lead, or other metal, or a metallic salt. These ingredients are mixed and incorporated with glue, gum, or some adhesive preparations, by grinding them up with the addition of a suitable quantity of pulverized glass, or other substance, to form a roughened surface that is sufficient to produce friction.—*Patent completed.*

3017. G. H. OGSTON. *Improvements in treating nitrous acid and nitric oxide, in order to convert them into nitric acid.* Dated November 8, 1862.

The object of this invention is to recover certain oxides of nitrogen generated in various processes, often treated as waste products, and allowed to escape into the atmosphere, to the great injury to the health and vegetation of the neighbourhood in which such operations are conducted. For instance, nitric oxide and nitrous acid occur as waste products in the manufacture of oxalic acid, by the action of nitric acid upon sugar. The operation being usually conducted either in open vessels or in imperfectly constructed apparatus, the whole of the nitric oxide generated is thrown into the atmosphere and lost. Now, in order to render the nitric oxide so generated available for the reproduction of nitric acid, the patentee effects the decomposition of the saccharine matter in a close vessel of a construction described. In this improved apparatus he causes the nitric oxide, together with any other oxides of nitrogen by which it may be accompanied, to pass through a series of vessels, which he calls condensers, so arranged as to subject these gases to the simultaneous action of compressed air and water, or the vapour of water. He regulates the pressure and temperature as may be required from time to time as the operation proceeds.—*Patent completed.*

A return moved for in Parliament by Sir E. Grogan shows that in 1801 the gross revenue collected in Great Britain (excluding miscellaneous receipts) amounted to £35,218,525, and in Ireland to £2,919,217. In the financial year 1861-62, the amount was £61,360,749 received of Great Britain, and £6,792,696 of Ireland. Therefore, in 1801 the gross revenue received in Great Britain amounted to £3 7s. per head of population, and in Ireland 11s. 2d.; in 1861-62, the amount per head was £2 13s. in Great Britain, and £1 3s. 6d. in Ireland.